VOL XXXVIII No 10 OCTOBER 1953

MECCANO MAGAZINE

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TRADE MARK REGD.

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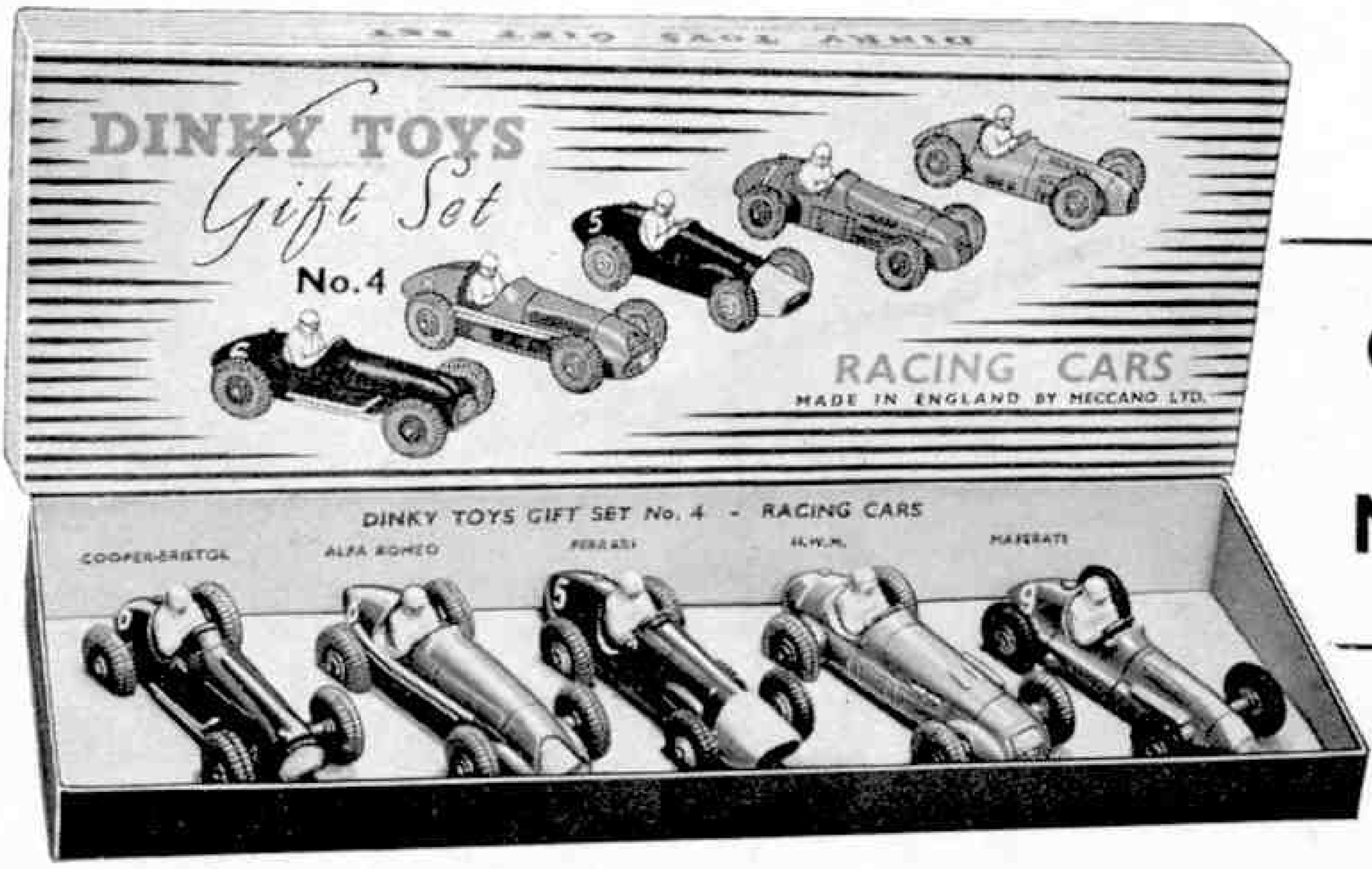

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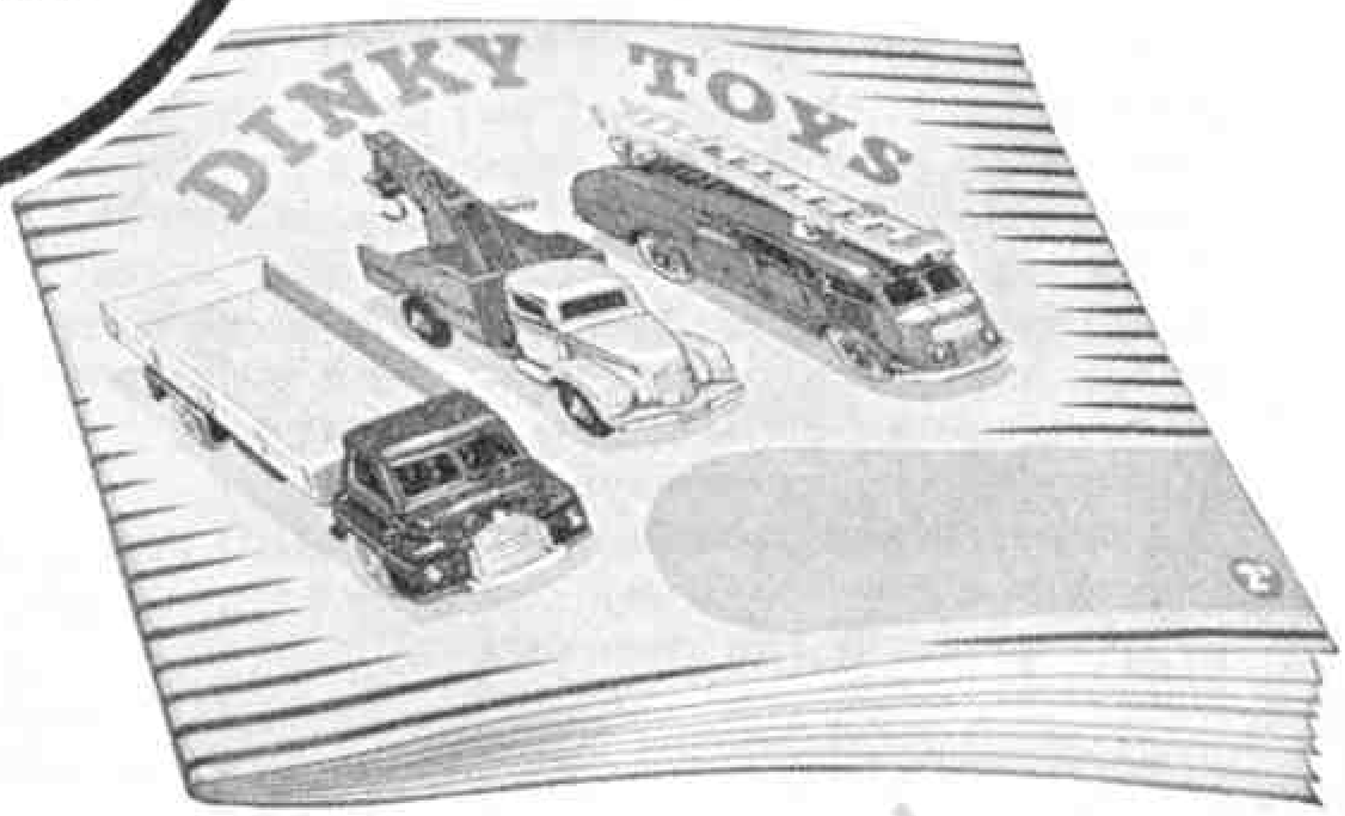

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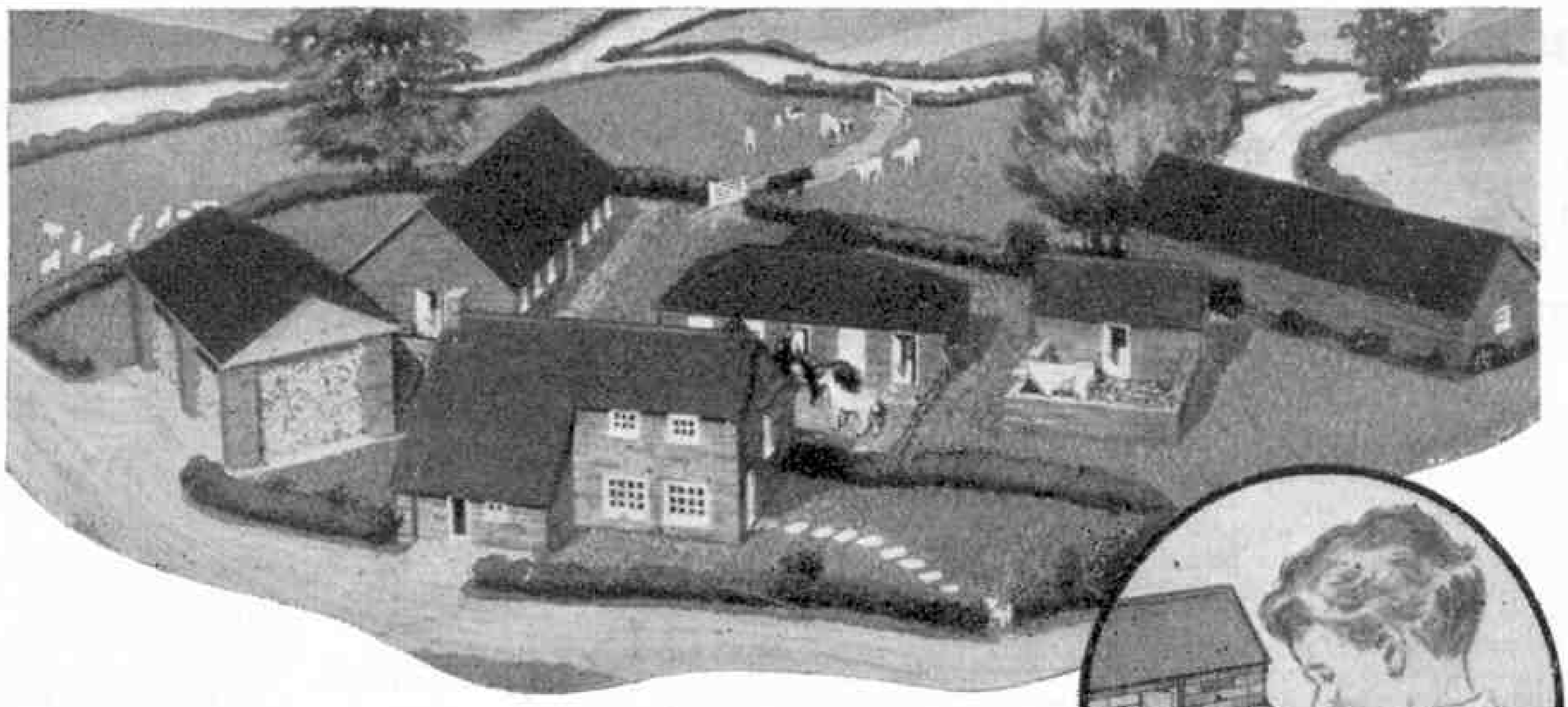

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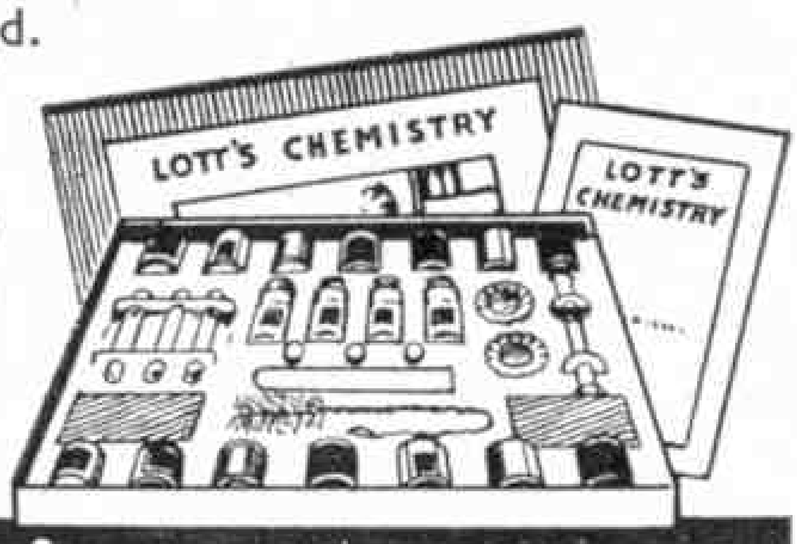

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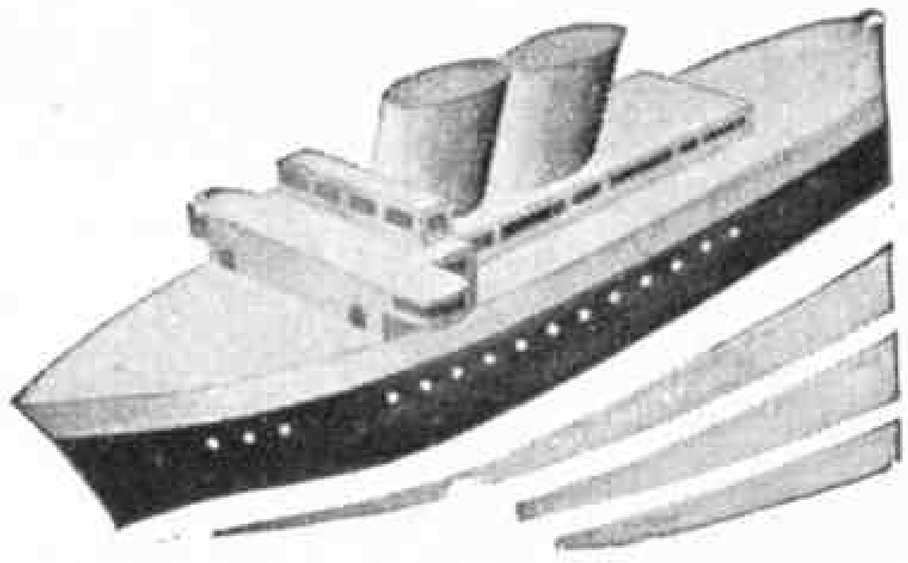

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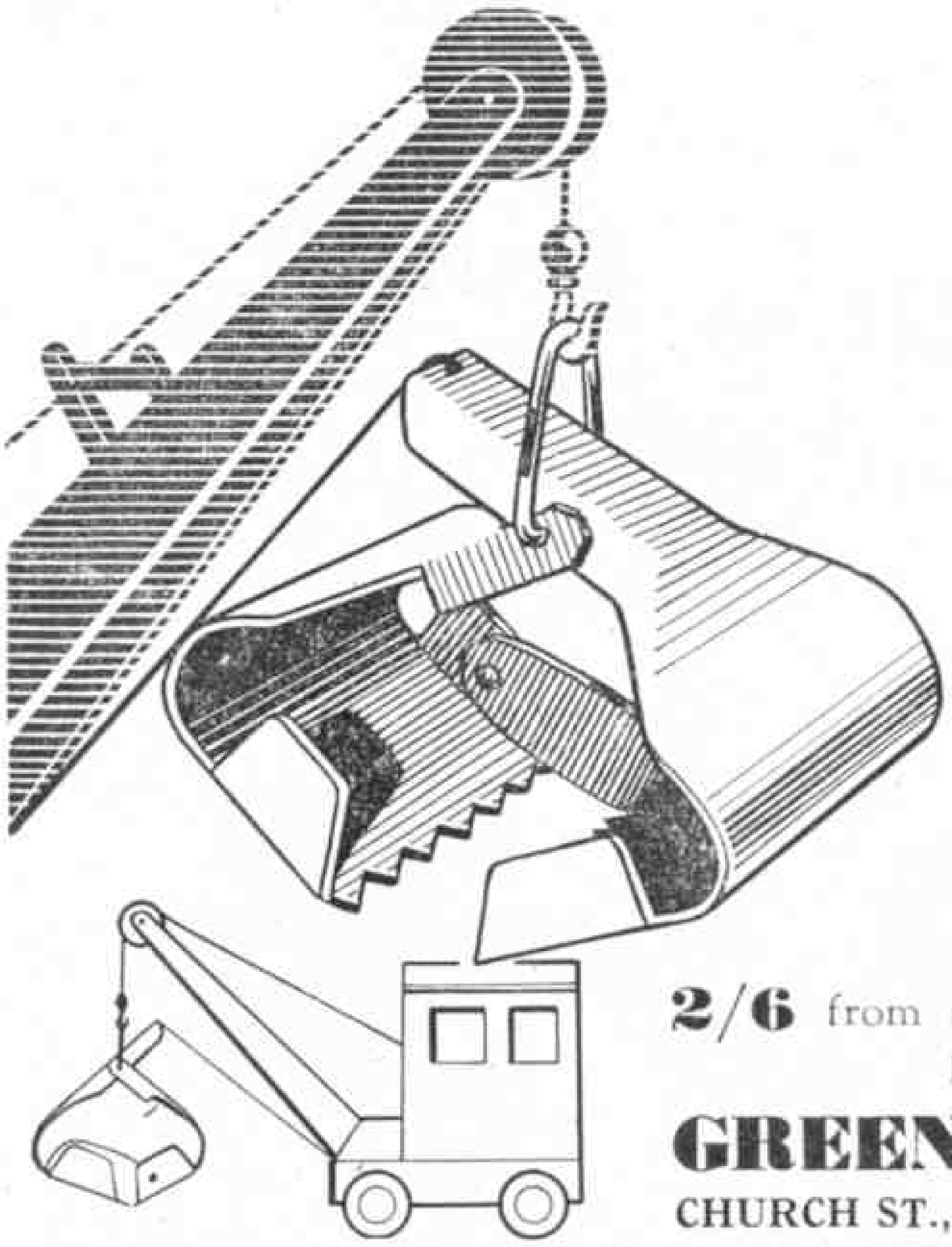

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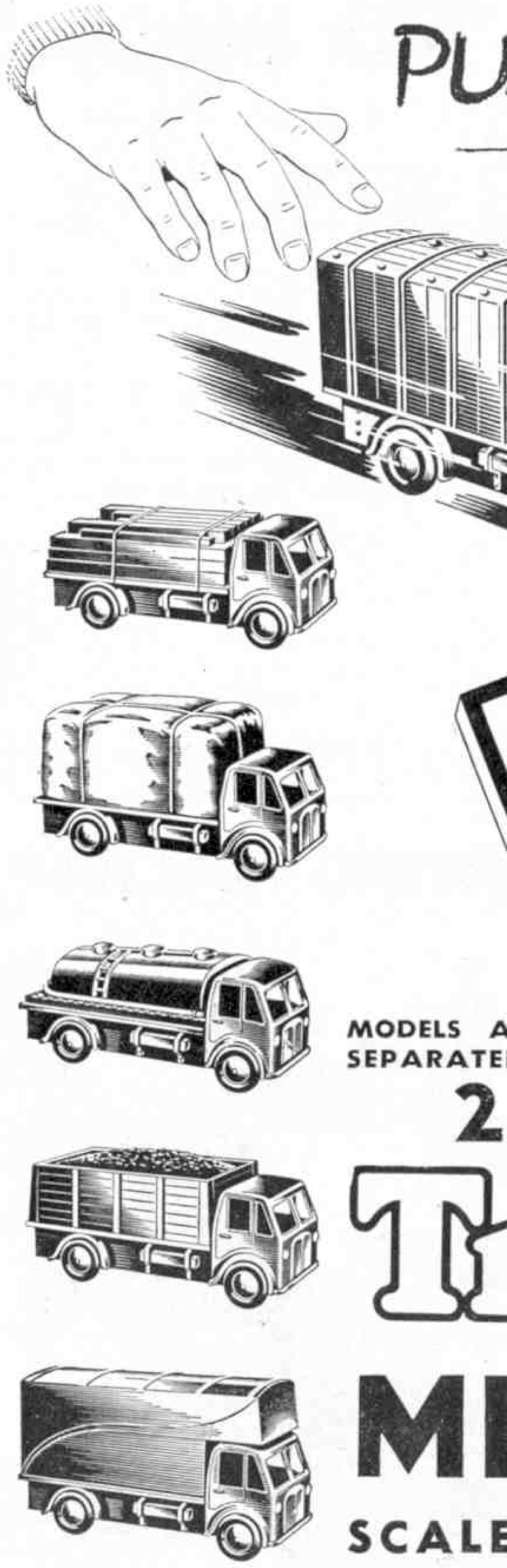

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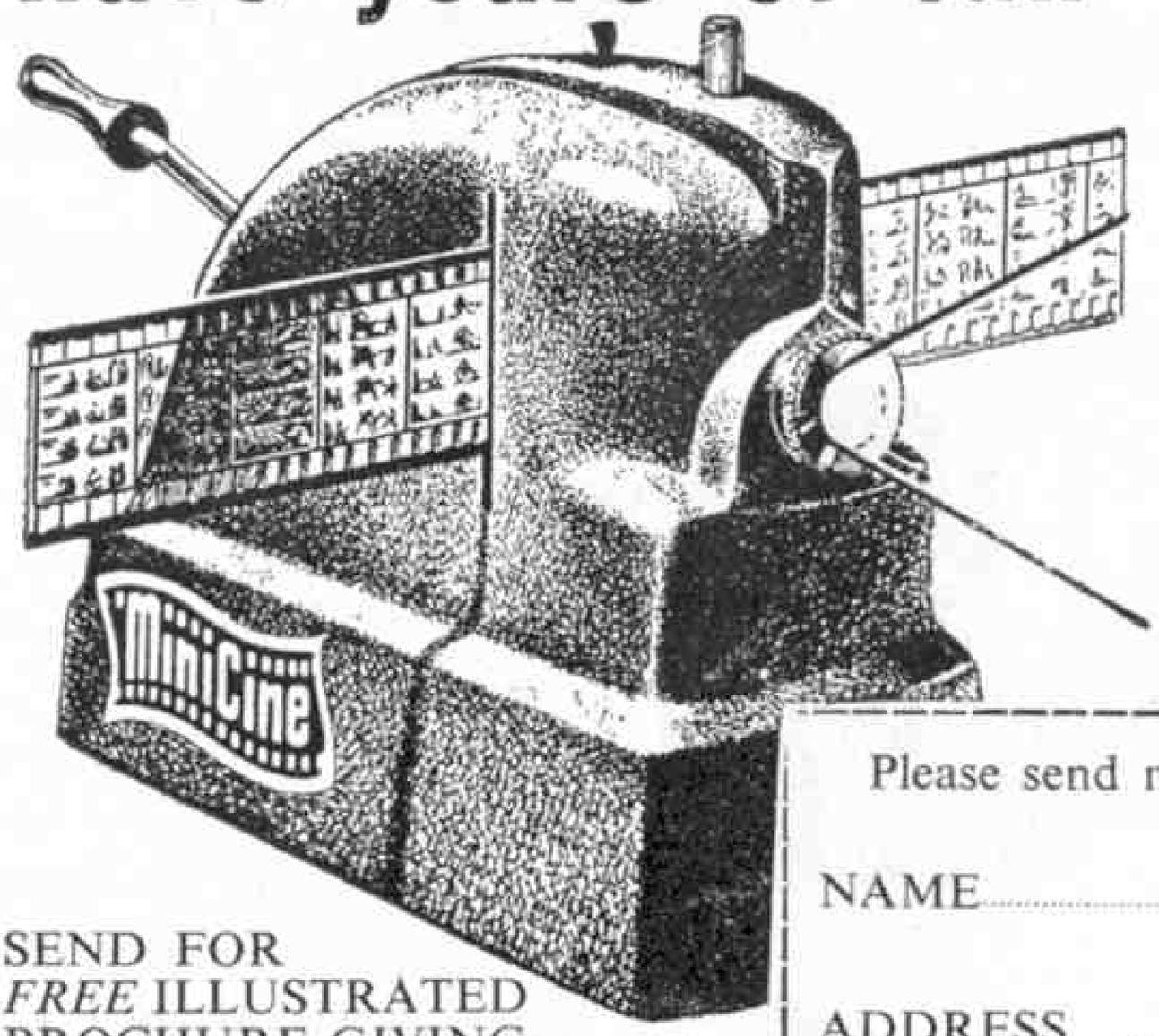

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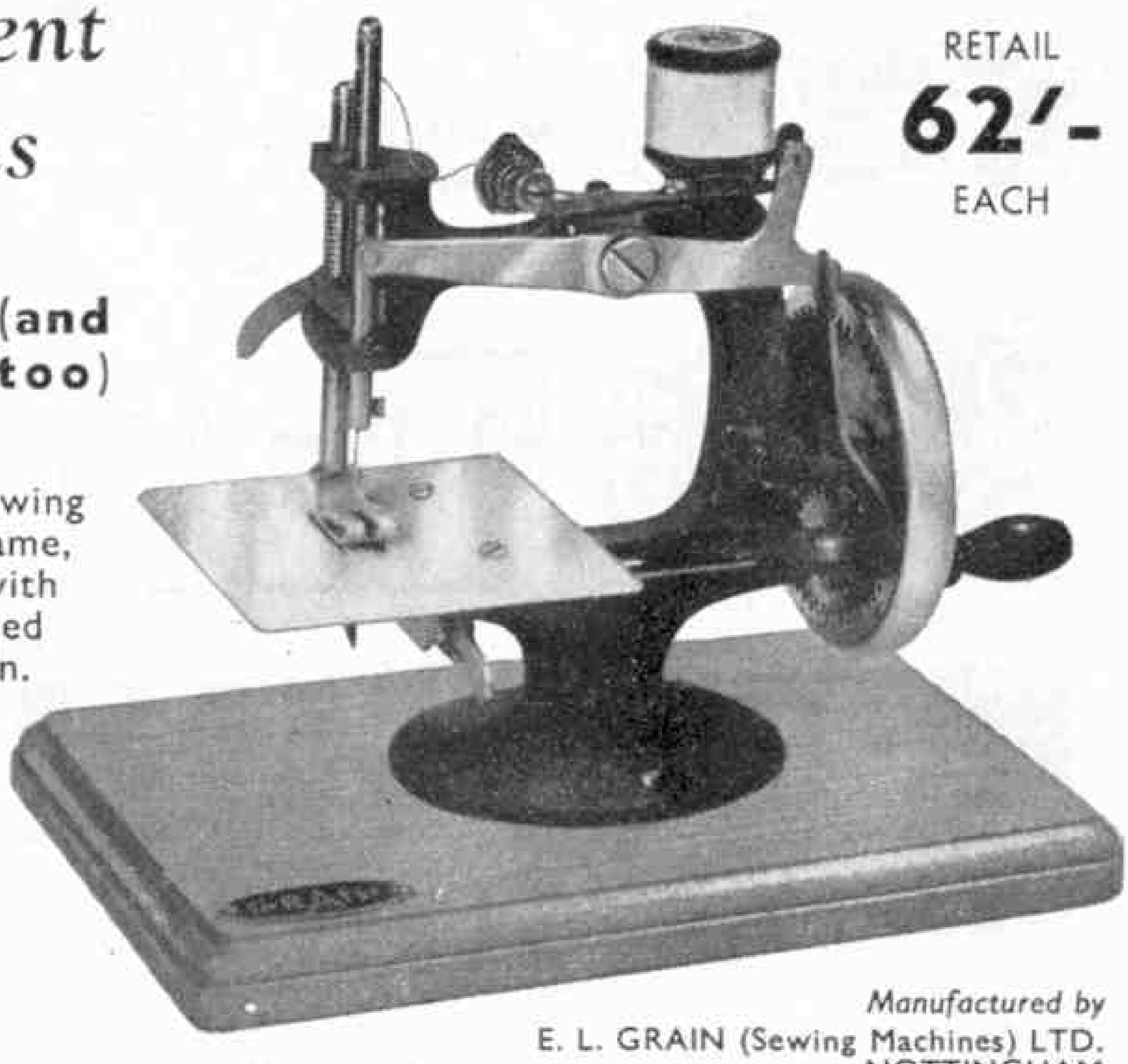

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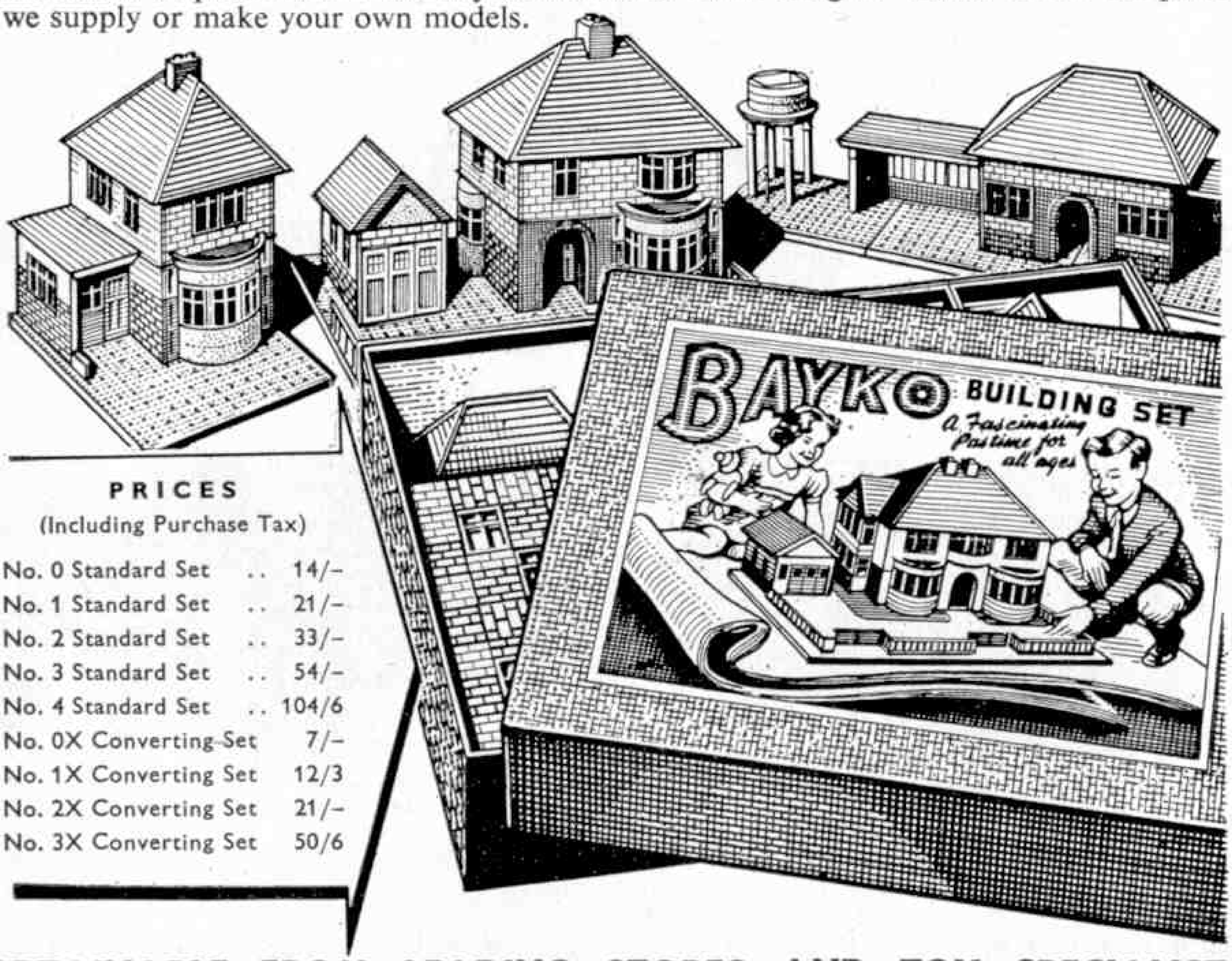

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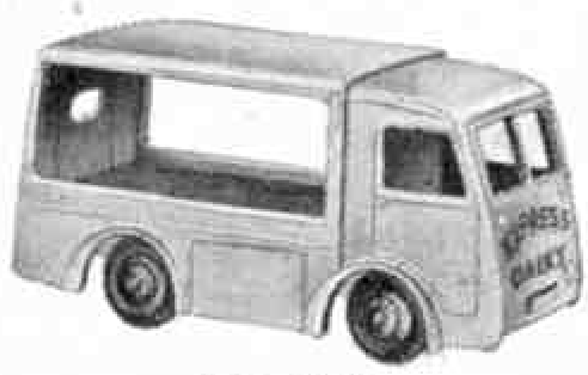

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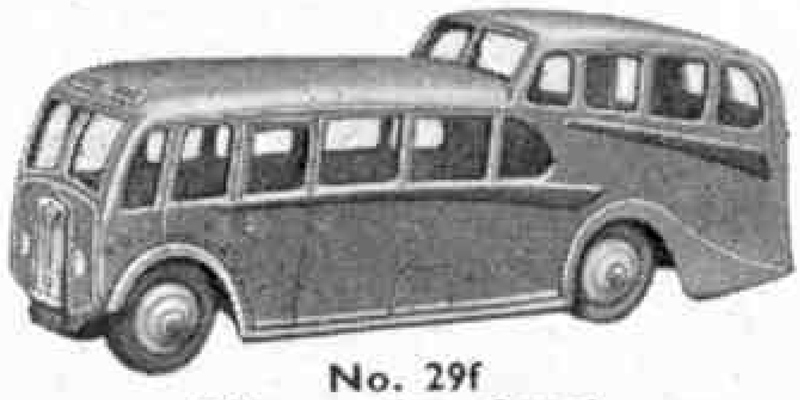

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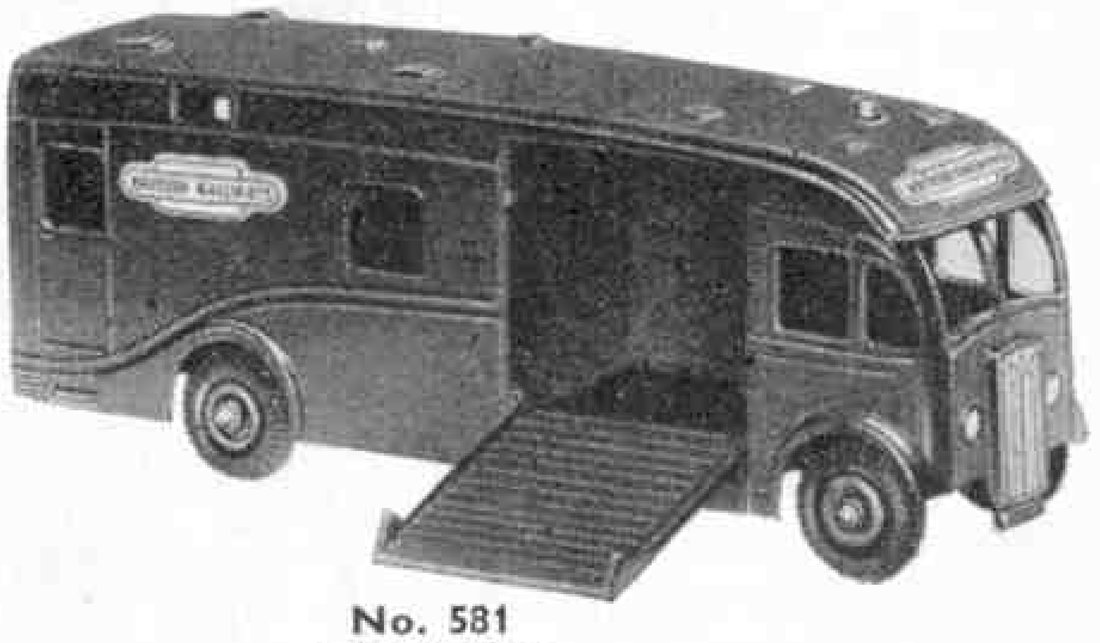

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Next Month: "HOW WE SHALL REACH THE MOON." By E. Burgess, F.R.A.S.

MECCANO MAGAZINE

Editorial Office:
Binns Road
Liverpool 13
England

Vol. XXXVIII
No. 10
October 1953

An Example To All Of Us

When I asked that great-hearted football player Joe Mercer if he would like to say something to the younger readers of the Magazine about the game he knows so well, he promised me an article that he thought would be of the greatest value to all who play, whether they aspire to the heights that he himself has reached or simply wish to play the game for the love of it. I think you will agree that he has fulfilled his promise when you read on page 492 what he has written for you.

Arsenal's captain is a modest individual. He has very little to say about his own achievements, but I am sure that in any case this was not necessary, as no player of our great national game is better known than he. The advice he gives is sound and sure to be helpful, especially if those who receive it gather something of the spirit that has always animated him throughout his long and distinguished playing career.

Last month I hinted that there will be one or two special issues during the winter. Last year's revival of the practice of producing a specially enlarged Christmas issue was a very great success, and I well remember the many letters that I received from readers on its appearance telling me how delighted they were with it. The Christmas issue of 1953 will be the brightest that has appeared since the outbreak of war over 14 years ago. It will be followed in January by another special issue. The details of this I am keeping to myself for the present. I will only say now that it will contain articles on a great international winter sporting event, written by celebrities, known to every reader, who have great achievements in it to their credit.

And there will be no increase in price for these two special issues. Make sure of your order for them, and indeed for every issue, for all will have special good things in them, and tell your friends who are not yet readers about them.

What is this? It is in London and is associated with an historic event that has its anniversary in October. Turn to page 538 to see if you are right.

The Editor

The Way to Good Football

By Joe Mercer

England, Everton and Arsenal

TO write or to talk about Soccer is something I am not too fond of doing. I would much rather play any time! However, I do feel that we older and more experienced players should always be willing to help and assist the youngsters, who after all will be the hopes of the future of British football.

I am very proud of the high regard that the whole footballing world has for the standard of our play, and if we are to maintain this high standard and regard, one of the essentials must be the coaching encouragement and faith in the stars of tomorrow. I am very fond of coaching, especially where younger boys are concerned, and looking back over the years to my own youth I am sure that the best way we can help potential young footballers is to give them a good sensible foundation from which they can build a career for themselves.

I would point out very emphatically from the beginning that playing and getting fit for football is a personal affair. The best coach and trainer can only help and guide; the novices must then work things out for themselves and apply the advice to the game in their own natural way. Football is a strange game, in that one must be prepared to play to a plan for the good of the team and yet retain his individuality. So I welcome this glorious opportunity of having a chat not only with the boy readers of this Magazine, but also with their fathers, many of whom I know are keen readers and who naturally play a big part in the shaping of their boys' futures.

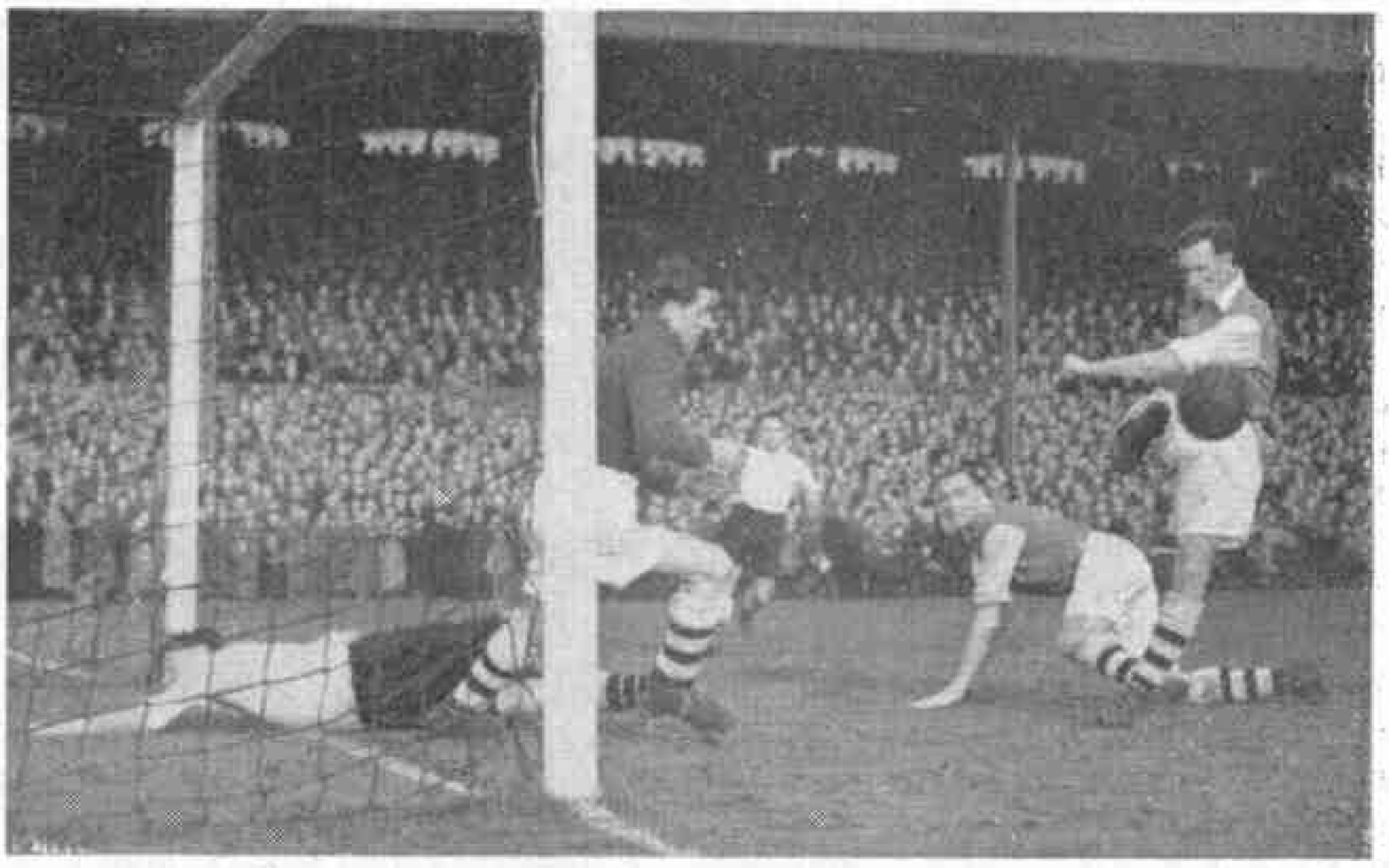
We in football are anxious to attract the best possible type of recruit and I am glad to have the chance to point out to the parents and guardians of boys that a football career has much to offer these days besides a happy, healthy, thrilling life. There is a marvellous opportunity to travel and to see other countries, which is an education itself. Those who reach International or even first team status can earn well over £1,000 per year. There is also the chance of a £750 benefit every five years, coupled with the Football League's wonderful Benevolent Fund, which puts away 10 per cent. of a player's total earnings, including benefit for the sad day when he has to retire from the game. Although I have no regrets about my own career, and would willingly go through the good and the bad times all over again, I can't help but wish that this scheme had been in operation when I turned professional more than 21 years ago.

The Cup Final captains of 1952 shake hands before the game. On the left of the illustration at the head of the page is Joe Mercer, captain of Arsenal, and on the right Joe Harvey, Newcastle. Newcastle won, but Joe Mercer had gained a cupwinner's medal in 1950.

Most Managers of clubs will be very anxious for a boy to continue his normal career after he signs as a professional. They realise that a boy is much happier and fitter, both mentally and physically, when he is fully occupied. Billy Liddell, Stan. Matthews and Tommy Finney, just to mention a few, are players who are doing the sensible thing of preparing for the future.

Now I know by now you must be very impatient and will be asking when I will begin to give a few hints about improving play. So here goes.

Unless you are a natural of the Raich Carter, Jimmy Hagan or Tommy Finney type, and want to become a first-class player, there is a terrific amount of hard



A fine clearance from the goal mouth by Joe Mercer in a game against Fulham.

work ahead of you. So unless you are fanatically keen I'll advise you to get off the bus here and now, because there is a long hard fight to the top. There are three basic fundamental necessities. The first of these is FITNESS, the second is SKILL—only acquired by practice—and the third is TACTICS. Not one of these qualifications is much use without the other. For example, it is no earthly use being fit and skilful without the desire and ability to combine and play together with the rest of your team, which is really just what tactics mean.

Fitness must be worked for and developed; you can't buy it at the chemist's. It's a personal effort on your part. One of the secrets is regularity. Go to bed at a certain time; get up at a certain time; have your meals at a certain time; and pay strict attention to personal hygiene. Regular and conscientious training is essential. The object of training is to be fit for the game, so train hard at the beginning of the week and taper off to be fresh and fit for the game itself, to enable you to play to the best of your ability. You can't get fit by only training once or twice a week. The fact that Gordon Pirie runs over a hundred miles a week is worth a thought.

Coaching is notoriously bad in our country. The traditional way to practice is to get a volunteer to go in goal, and then for the remainder to try to knock him through the goal by shooting the ball at him! This might be all right for would-be Nat Lofthouses, but remember we can't all be goal scoring centre-forwards. My advice is to split up into small groups during practice periods and learn the way to pass the ball accurately along the ground like Jimmy Hagan, with either foot, to lob and volley a ball like Walley Barnes, and to head a ball like Tommy Lawton.

It is also vital to have the ability to trap or bring the ball under control, no matter in what direction or at what height it comes to you. See Wilf Mannion bring an awkward ball under control in a flash, and despatch it to a team mate almost in the same movement. It looks so easy.

All great players have that in common, they make things *look* easy. But oh, the practice and patience that has gone into perfecting one simple movement. My friend Matt Busby, the Manager of Manchester United, sums the position up briefly, and to my mind conclusively, with the simple phrase *"Good Football is the easy thing done quickly."* I honestly think that is Stan. Matthews' great secret; he makes the obvious movement so much quicker than most of us, and this

Goal! One of Joe Mercer's rare scoring efforts. He is seen shooting past the Preston goalkeeper at Highbury in March last.

of course must be coupled with the fact that he keeps himself so wonderfully fit.

Now tactics are important to success, but I firmly believe that all tactics must spring from practical experience. Learn while you play, and profit from the mistakes you make.

I was very lucky throughout my early career to have wonderful tutors. No one indeed had better. My old schoolmaster Billy Roberts, a cousin of the famous Arsenal stopper centre half Herbert Roberts, used to tell me where and, what is more important, why I had gone wrong in my schoolboy days. Then when I became an Everton player I had such great teachers as Billy Dean, Jock Thomson and Warney Cresswell, players who would tell you in no uncertain terms where you had erred. These lessons bit deep when the mistakes had just been made and were fresh in the mind. That I am sure is why Doncaster Rovers and Hull City did so well when Peter Doherty and Raich Carter were out on the field and in full command.

A familiar sight to London football enthusiasts for many seasons—the Arsenal captain leads his team on to the field at Highbury.

There is also great knowledge to be gained individually and tactically by going to watch first-class players and teams. Go and see for yourself—look and not talk—learn and digest—come home and practise what you see the stars do so easily. Think about the various methods and procedure, then try and fit it to your own particular type of play. When you practise try and make it realistic and use your imagination.

Here is how Teddy Sagar, one of the greatest goalkeepers ever to play, used to practise by the hour. He would go to the huge wall at the Bullens Road side of the Walton Lane Stand and kick a ball against it, catching and serving the rebound. Now a low one, then a high one, varying the kick to allow him practice in making all kinds of saves, but especially those he knew he was weak on. Only by continually practising will you overcome a foot or some other weakness that is lowering your ability as a player.

I suppose we could talk and learn about football for ever. I know that there is hardly a match that I play in which I don't discover something new. If anyone says he knows everything about any game, beware of him. The more you learn the more you realise how little you know.

Although I have had a very happy football life and have enjoyed every minute, I would point out to young players who are keen to turn professional and make football a career that it is not all sunshine and plain sailing. If he wants to have any lasting success he must be prepared to subject himself to strict discipline in his habits.

If my own son, David, wants to turn professional, and I sincerely hope he's good enough and has the inclination, I should like to see him start with a good local club so that he can continue to live at home. Although most good clubs have very good "digs" for their players there is nothing that quite compares with home. When rough times come along, as they are bound to, when the ball is not running well, as we say, then the sympathy and comfort of home is what is needed to help. Secondly, football is a very uncertain game. One is never sure when an injury will terminate a career unexpectedly. So give a thought for the days when you can no longer play. If during your playing career you have used the leisure time it presents wisely, and have mastered a trade or profession, I'm sure you will find many opportunities of rehabilitating yourself into normal life.

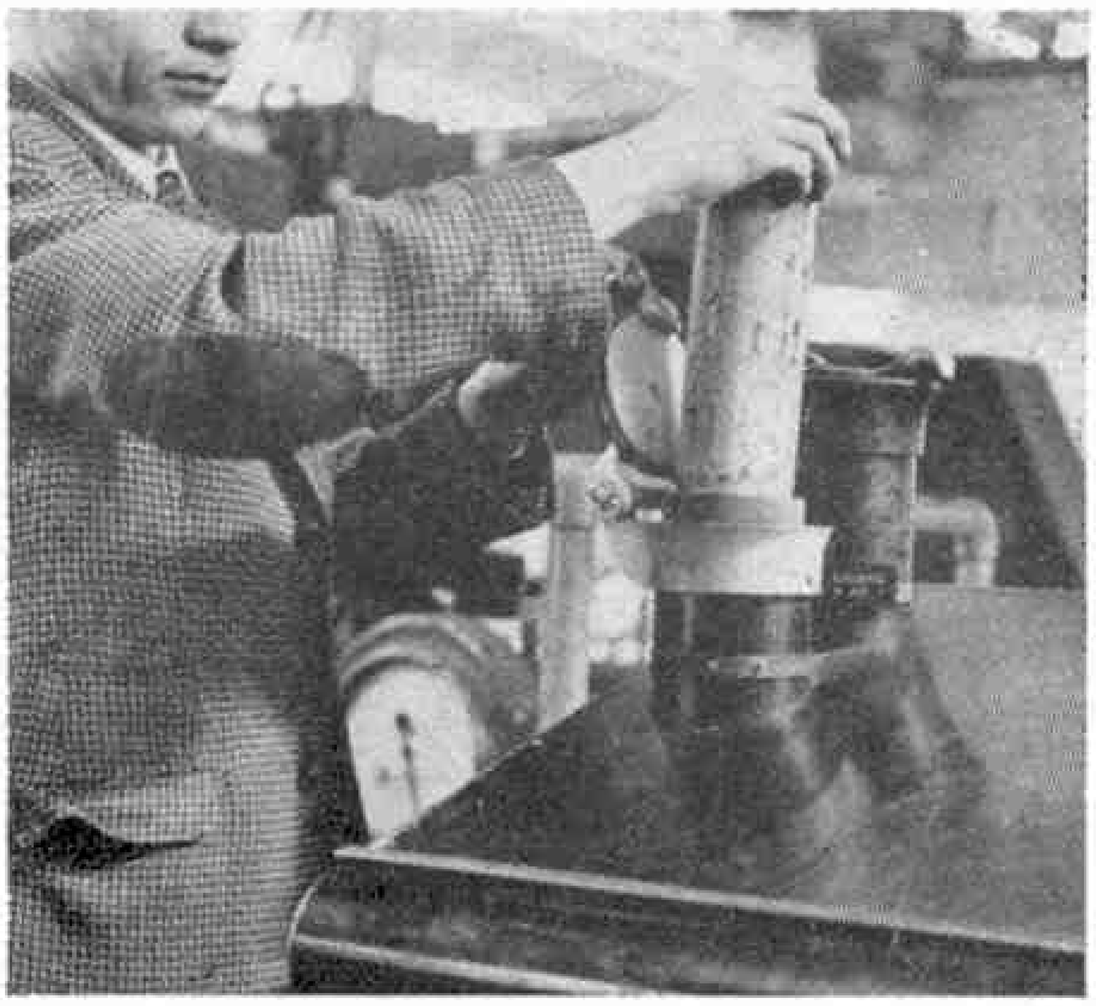
Remember always that football is played mainly for enjoyment; if you enjoy the game you have succeeded no matter whether you have won or lost.

Steel Samples Sent by Tube

Lamson Carrier System Nearly Two Miles Long

By L. Bruce Mayne

IN the three steel-making plants of the Steel Company of Wales at Port Talbot—the Port Talbot Works, the Margam Works and the new Abbey Works—which stretch for four and a half miles along the Bristol Channel coast—the Lamson Tube system of communication is put to a very interesting use. The tubes, which are on hire to the Steel Company of Wales from the Lamson Engineering Company, are $2\frac{1}{4}$ inches and four inches in diameter. They run above ground and are supported at ten-feet intervals. The joints are brazed and the whole circuit is closed, making a ring main.



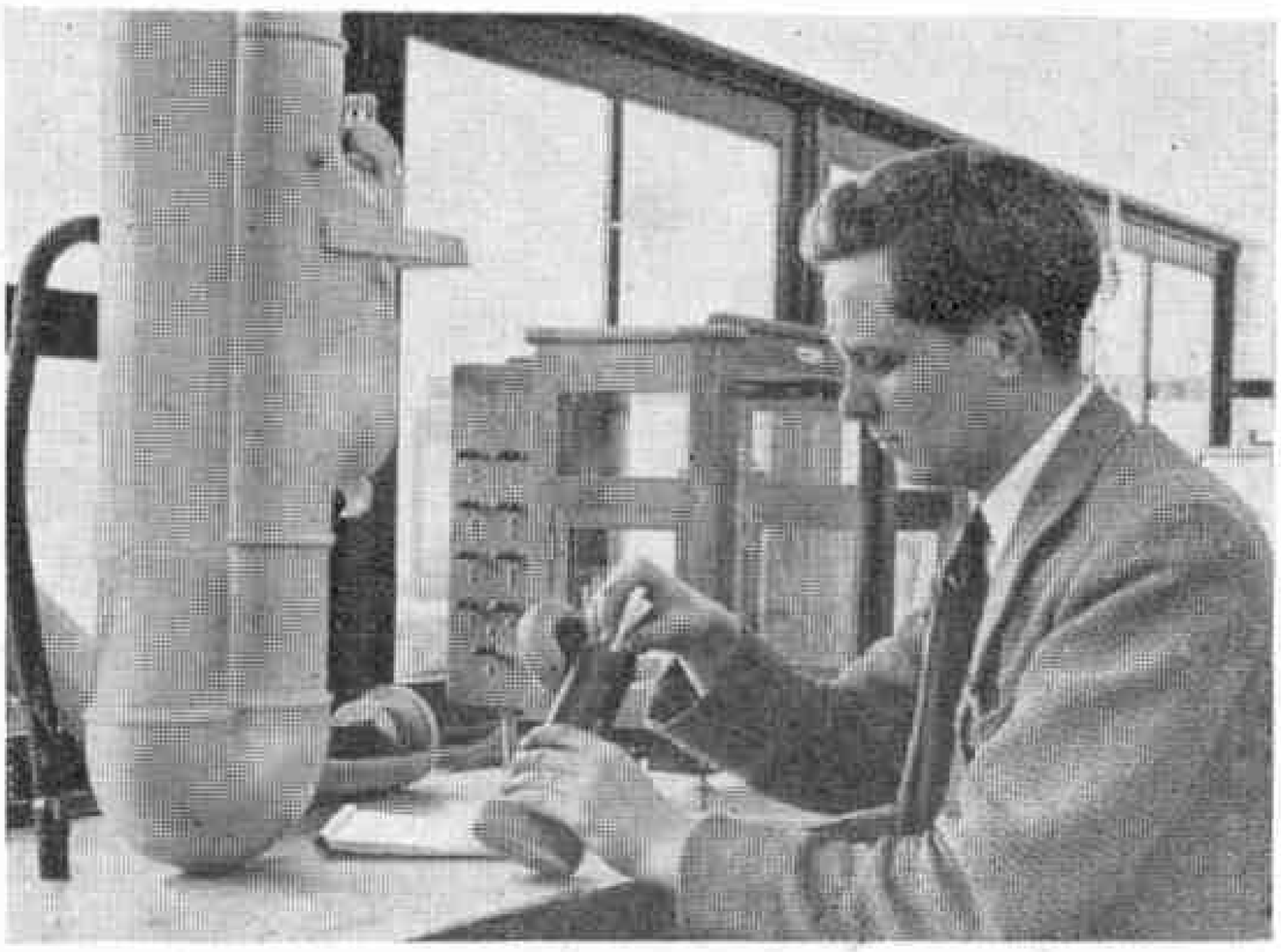
A container carrying a sample of steel is inserted in the tube in which it is carried to the laboratory for analysis.

As their name suggests, the carriers actually carry messages, and with them are blown and sucked along inside the outer tube. They also are made of steel and have a felt disc about $\frac{3}{8}$ inch thick at each end. Between 12th December 1952 and 1st April 1953 carriers between Port Talbot and Margam alone covered something like 10,000 miles.

Of the four blowers in the Port Talbot-Margam circuit two are for emergency use only and are automatically brought into the circuit if one of the others breaks down. They are driven by 10 h.p. direct coupled motors and they reduce the pressure within the tubes to only $2\frac{1}{2}$ lb. per square inch, the pressure of the atmosphere being just over 14 lb. per square inch.

In the making of steel, samples have to be taken periodically to ensure that metal of the correct quality is being produced. During the time a charge of steel is being made in a furnace, which is usually about twelve hours, between five and fourteen samples may be taken. These samples are drilled and sent to the metallurgical laboratory for analysis and the results are returned to the melting shop, where the steel is being made. There the sample-passer considers the report and makes his decision to add certain ingredients to bring the steel to the specification required.

By means of Lamson Tubes, samples reach the laboratory, 1,000 yards away, in three minutes, and the total time for the whole operation, from the taking of the sample to the return of the analyst's report, is about $16\frac{1}{2}$ minutes. The run of the tube from the Port Talbot Melting Shop to the central laboratory at Margam is 10,000 feet long and is probably the longest run of Lamson tube in Great Britain.



The report on a sample of steel is returned to the melting shop by tube. The illustrations to this article are reproduced by courtesy of the Steel Company of Wales Ltd.

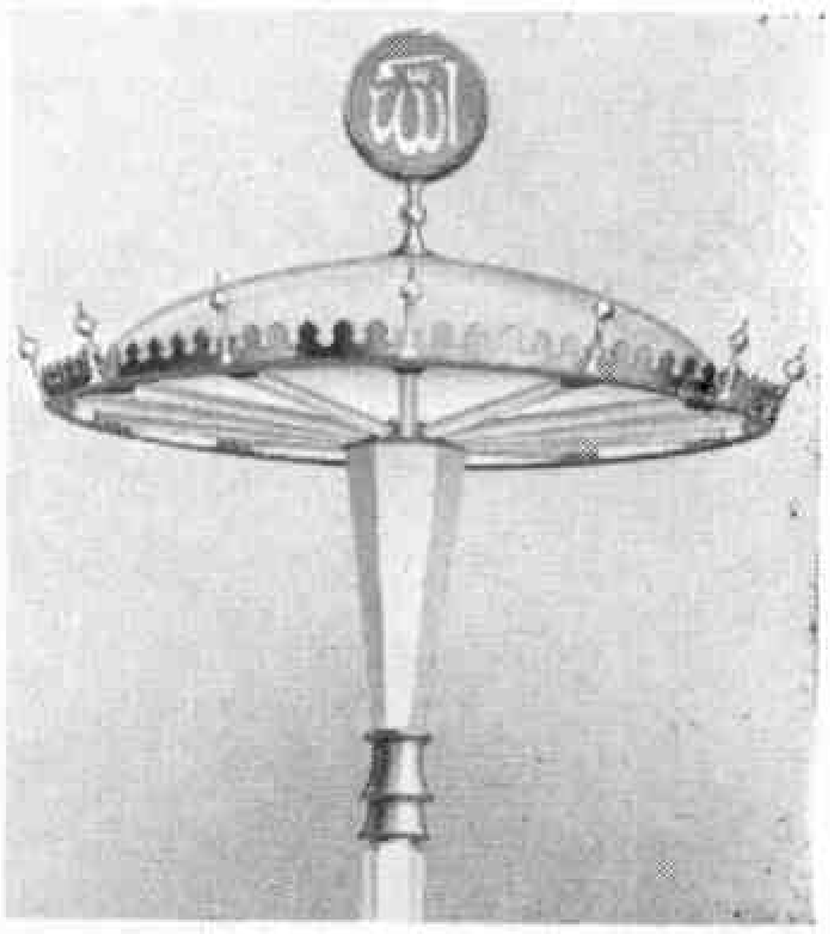
Fluorescent Lighting in Mecca

Modern System for Moslem Shrine

THROUGHOUT the Moslem world Mecca has been a magic name for many centuries, the mother of cities and a centre of pilgrimage. Last year the number of pilgrims who made their way to the holy city, in which the prophet Mohammed was born, was 350,000 of whom 140,000 came from outside Saudi-Arabia, in which Mecca is now included, many of them from distant lands. Nowadays pilgrims travel by aeroplane, steamship or car, but cantering ponies, camels in caravans and pilgrims on foot still set the scene, as they have done every year for thirteen centuries during the Moslem month of Zul Hija, the month of the great pilgrimage at Mecca.

The mother of cities lies in a hollow almost shut in by a rampart of bare hills. Within it all roads lead to the Haram, the vast Mosque that stands in its centre. The courtyard of the Mosque is open to the sky. It is surrounded by a thick and lofty wall in which there are 24 gates, with about 50 steps from each gate down into the great enclosure. In shape the Haram is roughly rectangular, and from its wall rise seven minarets from which at the appointed hours the muezzin sounds the call to prayer.

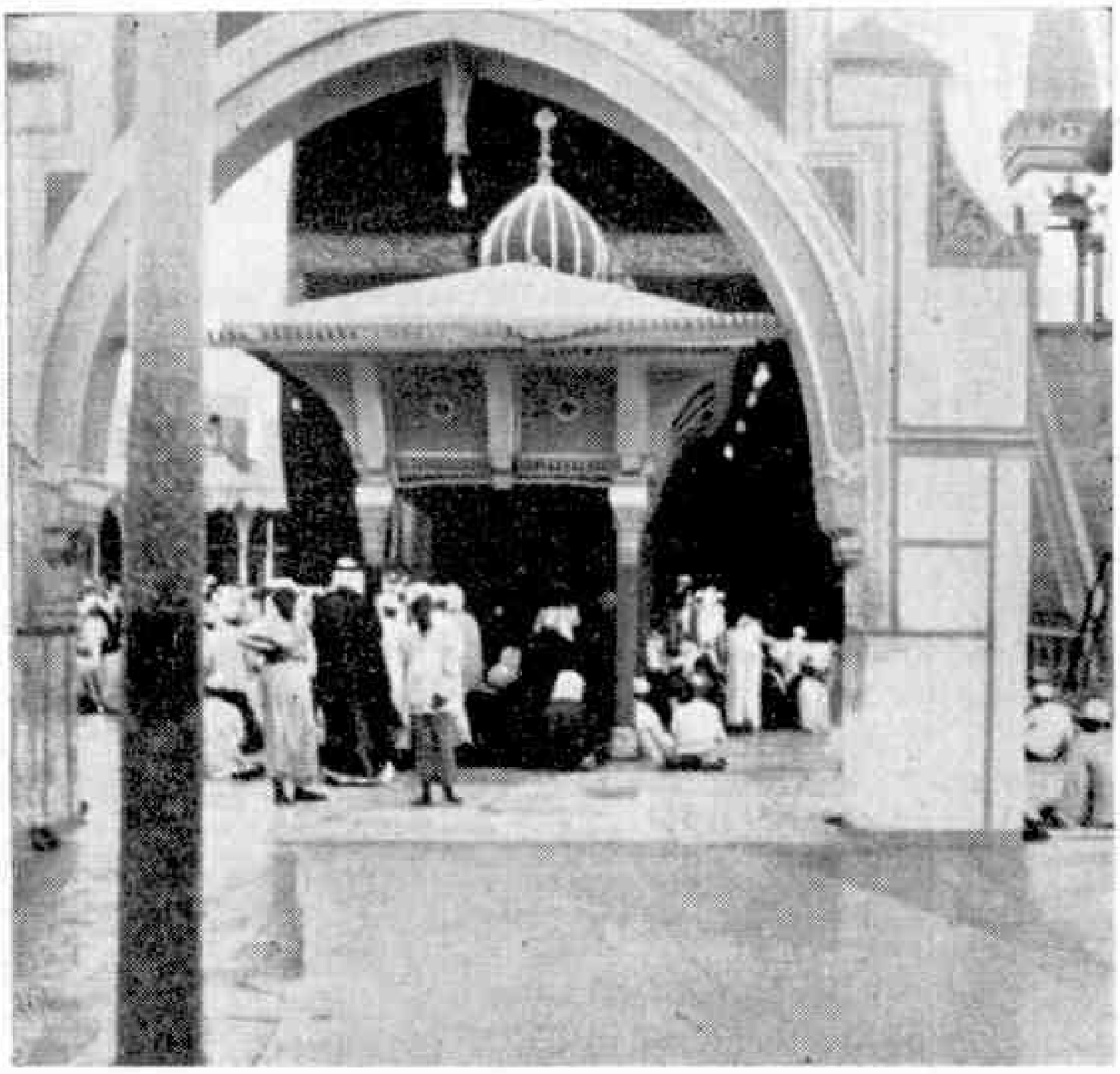
On the inside of the wall, and running its entire length, is an arcaded cloister with pillars of marble or granite. In the centre of the courtyard is the sacred Kaaba a plain building of brown basalt, measuring 40ft. by 30 ft. draped with a heavy covering of black silk embroidered with gold. This covering is known as the Kiswa. It is made in Egypt and is renewed annually. The Kaaba is believed by many Moslems to have been built by Abraham and the "tawaf" or circuit of it is an essential part of the Meccan pilgrimage. In its south east corner is the Black Stone, the most sacred emblem of Islam, which is kissed or saluted by the pilgrims.



An artist's impression of one of 28 G.E.C. decorative fluorescent floodlights, each incorporating 12 tubes, installed in the courtyard of the Grand Mosque, Mecca. Above the fitting is a panel with the one word "God" in Arabic script.

The Kaaba or shrine in the courtyard of the Grand Mosque, Mecca.

The Grand Mosque already had a lighting system, consisting in the main of bare lamps hanging from lengths of flex, but the Saudi-Arabian Government decided to modernise it. The scheme was entrusted to E. A. Juffali and Brothers, who are agents of The General Electric Company Limited and are carrying out a complete electrification scheme for the whole city of Mecca, which today has a



Inside the Grand Mosque, where pre-war electric lighting has been replaced by a modern fluorescent lighting scheme.

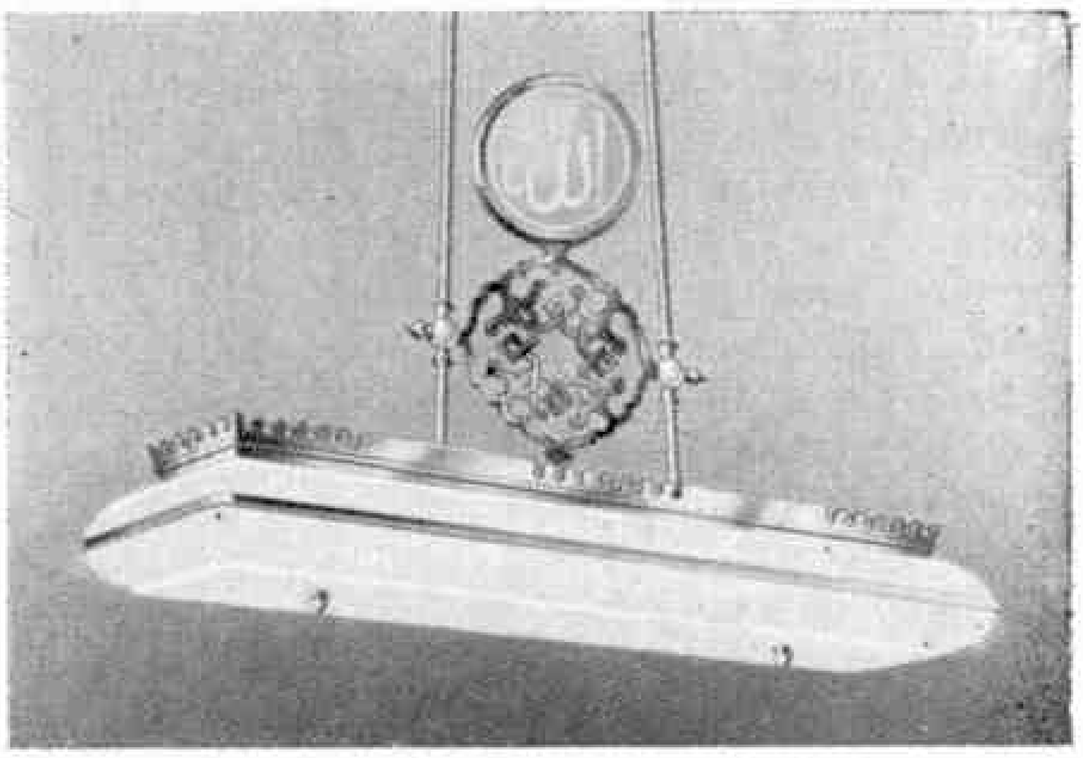
population estimated at 100,000. The G.E.C. sent out its chief fittings designer, Mr. L. E. A. Phillips, to undertake the design of suitable fluorescent and tungsten light fittings. This was not an easy task, since for religious reasons Mr. Phillips was unable to visit Mecca itself, as the holy city is forbidden to all but those who belong to the Moslem faith. No detailed plan and elevation drawings of the Mosque were available, so the lighting scheme had to be planned on the basis of photographs, measurements taken by agents and a pilgrim's map of the Mosque. The feeling and atmosphere of the city was so well gauged, however, that the designs sketched out proved acceptable on sight to the Director of Mosques in Saudi-Arabia.

The courtyard of the Mosque is now illuminated with general floodlighting. For this purpose 28 decorative fluorescent floodlights are mounted on new concrete posts, and one of these is shown in the upper illustration on the opposite page. Each consists of a sky blue shallow dome, below which are twelve 40W. Osram tubes, each 2 ft. in length, radiating from the top of the post like the spokes of a wheel. The internal surface of the dome is enamelled white in order to give good light reflection. Above each of these floodlights is a panel inscribed with the word *God* in Arabian script.

Special lighting is provided for the Kaaba. There were existing posts around this and they are now used for the suspension of 28 lanterns of bronze metal and "Perspex." Each of these lanterns houses six 2 ft. 40W. vertical Osram tubes.

Provision also had to be made for lighting the arcade round the courtyard. This is extensive, as can be seen in the lower illustration on the opposite page, and for it 225 special fluorescent fittings were made from bronze. These too have "Perspex" covers and each houses six 80W. Osram tubes 5 ft. in length, with the exception of eight in which 4 ft. 80W. tubes are used. Here again the decorative metal work above each fitting is topped by a panel bearing the word *God* in Arabic script. For the gateways 36 wall bracket lanterns in bronze and cathedral glass have been designed. These are fitted with 300W. tungsten lamps.

The final problem that had to be tackled in planning the new lighting for the Mosque was that of floodlighting the minarets from which the call to prayer is sounded. It will be remembered that the minarets rise from the wall, so that they face outward from the Mosque as well as inward to the courtyard. The side of each face outward is lit by two floodlights



The fitting illustrated above is one of 225 installed in the arcaded cloister round the courtyard of the Grand Mosque, seen in the lower illustration opposite.

housing 400W. Osram mercury lamps, which give a pale blue tint to the masonry. On the other side is a contrasting light from 1,000W. tungsten projector lamps.

We are indebted to The General Electric Company Limited for the information in this article and for our illustrations.

On the Footplate from Leeds to Carlisle

By "North Western"

IT is always a thrill to travel over a railway route that you have not covered before and the thrill is all the greater if this first trip is on the footplate. This was my good fortune recently when by permission of the Railway Executive I was able to ride on the footplate on the former Midland route from Leeds to Carlisle. The train selected for the journey was the 2.2 p.m. from Leeds (City). This is a through Edinburgh train from St. Pancras, which makes several stops between Leeds and Carlisle, at Skipton, Hellifield and Appleby respectively. In many ways a train that does make a few stops is more interesting to a footplate observer than a non-stop. One has rather more chance to talk to the enginemen at station stops and there are usually things to observe there anyway.

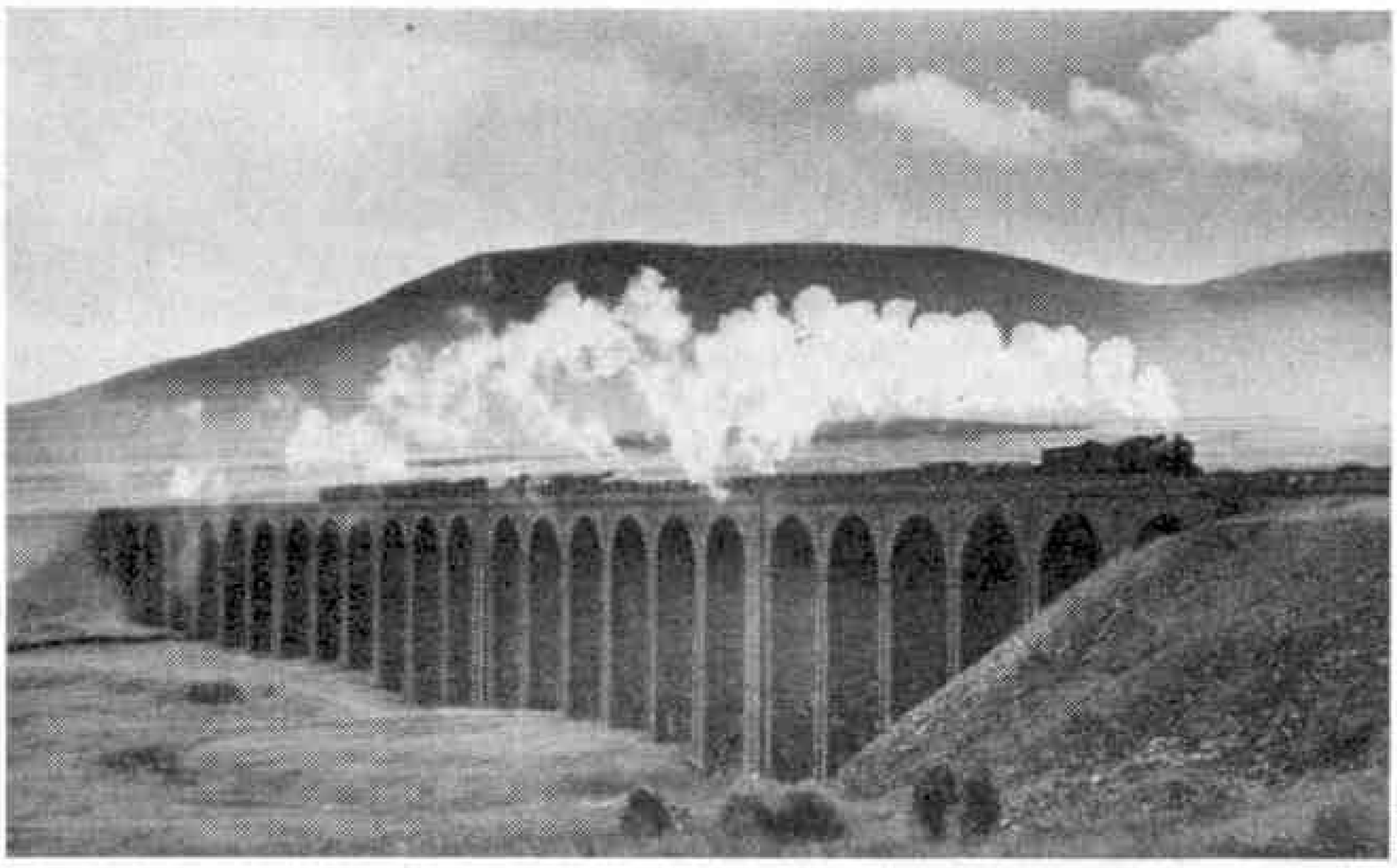
At Holbeck Motive Power Depot I joined a pair of friendly and enthusiastic Yorkshiremen, Driver Arthur Rose and his fireman W. Spink. The engine diagrammed for the job was a London Midland Class 5 4–6–0 No. 44756, one of the more or less experimental series of this numerous class fitted with Caprotti valves and gear instead of the usual piston valves and Walschaerts motion. These Caprottis can easily be distinguished when they are approaching, even in the distance, by the outside steam pipes that project prominently from the smoke-box, as you see in the picture on this page. Another point is that they do not have quite so high a running plate as the ordinary "Class 5s," so that the upper parts of the coupled wheels are encased in small splashers. Actually No. 44756 is one of the 10 Caprottis that are fitted with roller bearings to the main axles, the others retaining the plain bearings common to the Walschaerts engines.

Pressure was standing at 200 lb. when we mounted the footplate, where everything was hosed down and wiped off after coaling. Soon we moved forward off the shed and set back in reverse for Engine Shed Junction and so reached the station. Our train was not yet in, but it soon arrived, eight coaches of it, one of them a 12-wheeler, weighing in all 276 tons empty.

We were quickly "*Right Away*" and, seen off from the platform by Mr. Pickersgill, a Motive Power official, we got away energetically. Right from the start the general tendency of the road is against the engine. This is not serious at first, real work beginning in earnest at Settle Junction and continuing almost without a break until the train is a short distance inside Blea Moor Tunnel. From that point there is a high-altitude stretch that continues to the summit point of the line at Aisgill, 1,169 ft. above sea level. Thence the line falls down through the Eden Valley to Carlisle, although the descent is broken by some quite tidy "humps."

An Edinburgh train leaving Leeds behind a Caprotti class 5 No. 44757. This is a sister engine to No. 44756 referred to in the article. Photograph by Archdeacon E. Treacy.

Driver Rose had already told me that he had found it necessary to get the Caprottis well under way before linking up, and he soon showed himself a firm believer in full throttle working. We went briskly out of industrial Leeds, with its mills and factories, past the triangular layout at



A Derby class 4 0-6-0 makes its way across Ribblehead Viaduct, an impressive structure that is the longest and the highest of the viaducts on the Aisgill route. This and the lower photograph on this page are by W. Hubert Foster, Bingley.

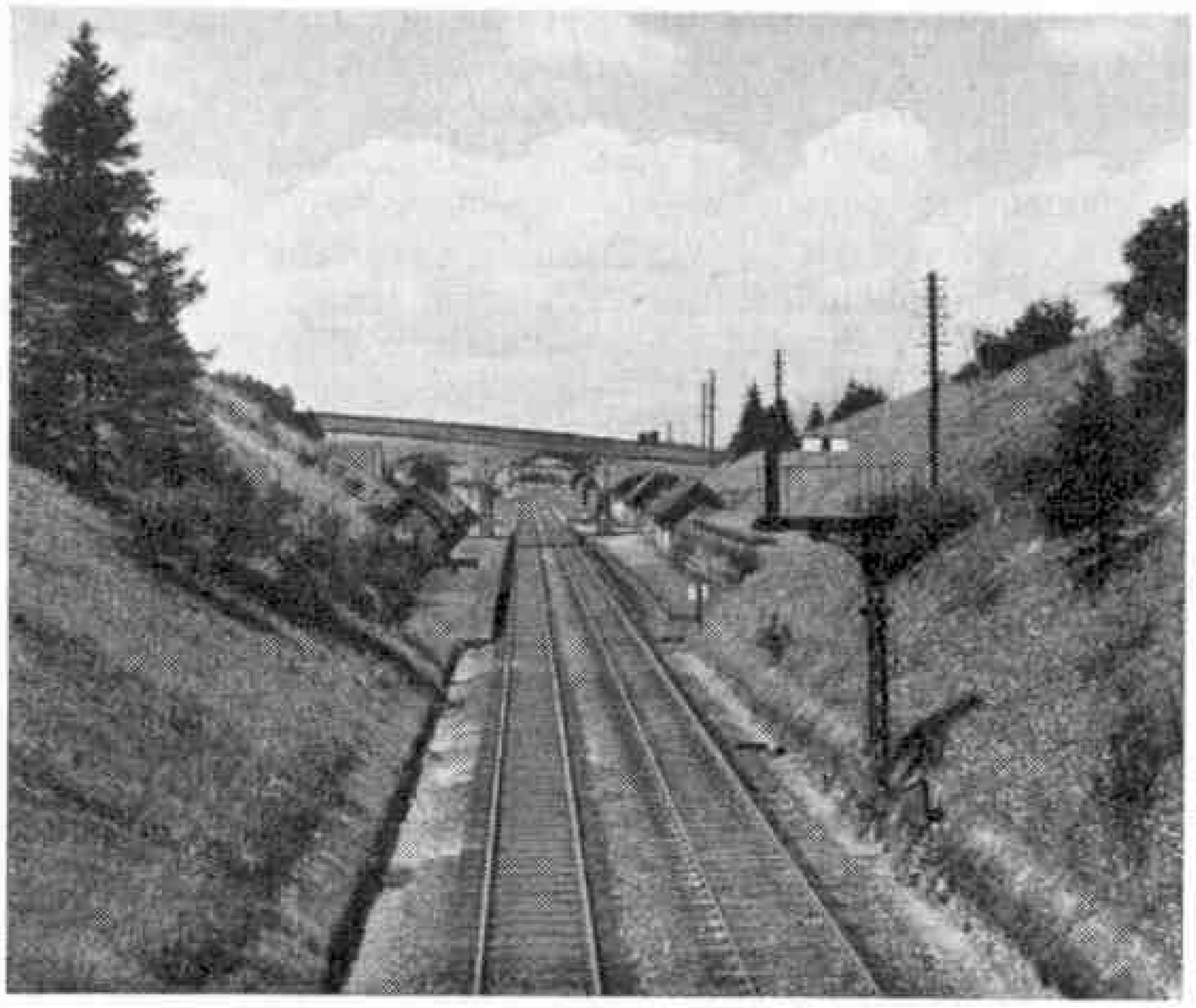
Shipley and up past Keighley to reach Skipton at 2.36 p.m. as booked. There water was taken because at the time the journey was made the troughs at Garsdale, the highest in the world, were temporarily out of action. A quick start was made down the slope to Skipton North Junction, the regulator being opened to full almost straight away. At the junction we veered to the right through hilly country that was only an introduction to the sterner scenery that we had to meet later on.

We ran into Hellifield to make a punctual stop at 2.54. The exposed situation of this junction is a reminder that it is a stabling point for the snow ploughs that are needed all too frequently on weather-swept route over Aisgill.

Fireman Spink had been busy in frequent spells ever since the trip began, feeding the fire with that practised swing of the shovel that is such a source of wonder to the onlooker. Now, in preparation for the harder work ahead, at Long Preston a healthy charge of coal was thrown in and firing continued to be fairly frequent all the way up. Hills of more severe aspect than before, and with sudden changes of contour, formed the background now, and as the Morecambe road went off to the left we took the right hand turn at Settle Junction and were truly launched on that mountainous stretch of railway that the enterprise of the former Midland company and the courage and skill of its engineers ran through the Pennine hills. Here and there in this country of drystone walls sheep ran away from the lineside as our engine barked its way along, but an unexpected industrial interlude was provided by the tall chimney of the limestone quarries seen at Stainforth sidings.

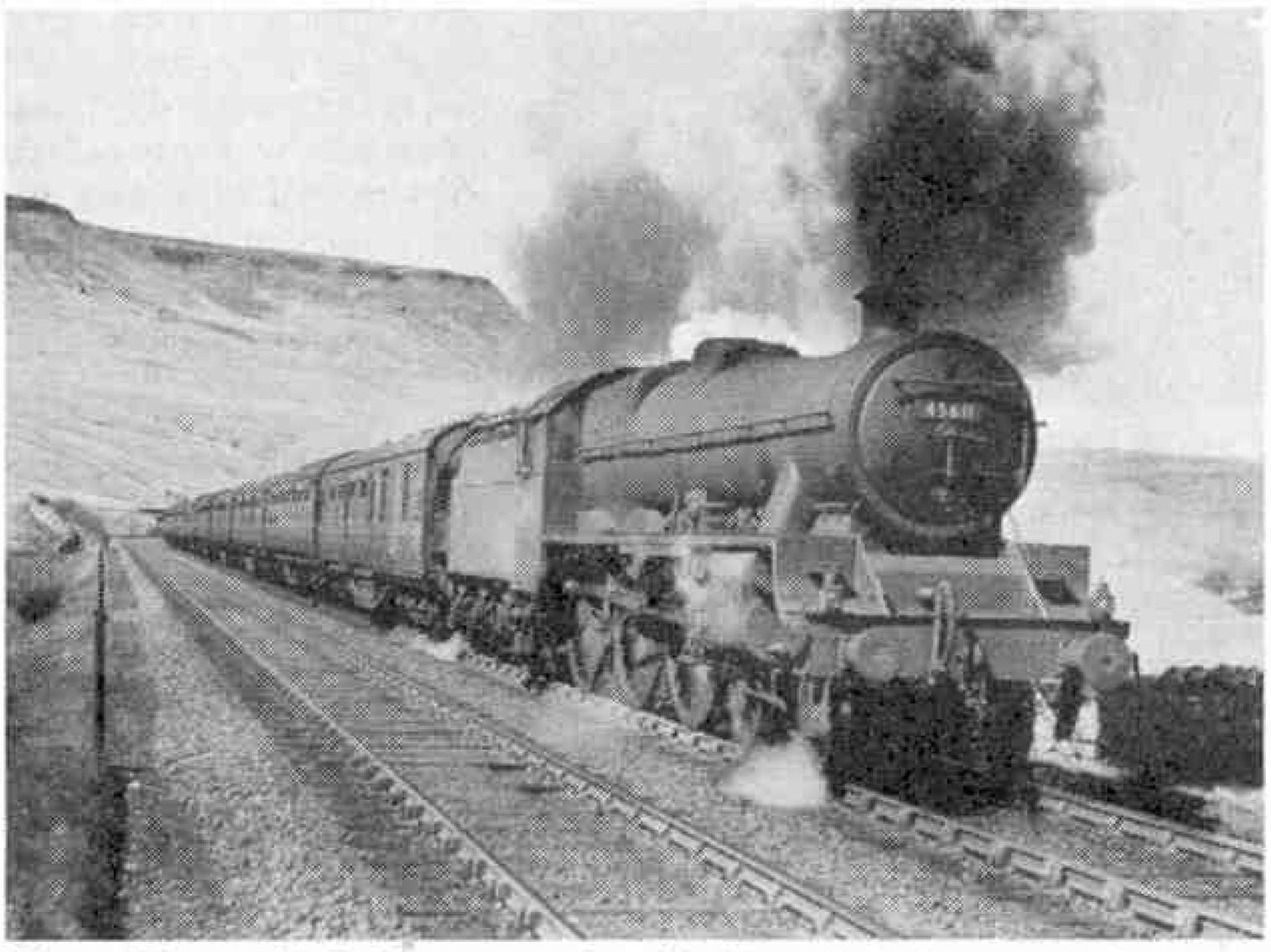
Very quickly one begins to feel the solitude of this route. Human habitations are few and far between, while the landscape seems to stretch almost endlessly, criss-crossed by the characteristic stone walls, into the distance, where on a slightly overcast day, as when I travelled, the bulk of Pen-y-ghent, Simon Fell and Whernside loom mistily.

Up past lonely little Selside box we forged steadily; then came Ribblehead, followed by one of the many viaducts characteristic of this route. This was formerly known as Batty Moss Viaduct, and it is the longest on the line, with its 24 spans built of the native limestone. From the longest viaduct we plunged into the longest tunnel on the route,



This view of Crosby Garrett Station in the Eden Valley contrasts strongly with the bleak and lonely country shown in the upper picture. The view is taken looking north.

Blea Moor, a dank re-echoing cavern 500 ft. below the surface of the moor. Soon after passing inside, a shaft opening that I was able to notice seemed to mark the summit, for the time being, of our climb and the engine quickly showed its appreciation of the drop at 1 in 440 that continues throughout the rest of the way through.



The up Thames-Clyde Express nearing Aisgill summit in charge of Jubilee Class No. 45611 Hong Kong. Photograph by W. Hubert Foster.

Spinning rapidly across the high-altitude sort of "table-land" that the line crosses between Blea Moor and Aisgill we passed Dent, the highest main line station in England at 1,145 ft. above sea level. In spite of the snow fences hereabouts this is a favourite place for snow blocks in severe weather! Dent is preceded by Dent Head and Arten Gill viaducts and is succeeded very quickly by Rise Hill Tunnel, after which the line skirts the deep valley, with Garsdale Troughs, empty for us today, coming into view. After the junction with the line to Hawes, the stamping ground of the "Bonnyface" train, came two tunnels, Moorcock and Shotlock Hill respectively. Then, climbing slightly again, we reached the welcome summit of the line at Aisgill.

Here at last Fireman Spink was able to take a well-earned spell on the seat that I had been monopolising all the way from Leeds. The regulator was shut now and we drifted rapidly away down the slope over Aisgill Viaduct and through Birkett Tunnel towards Kirkby Stephen. The run down from any summit is usually exhilarating and for my part I found this particular gallop quite exciting. Several times over you spy across a valley or round a distant bend the plume of smoke and steam thrown up by the toiling engine of a southbound freight. Moments later it comes face on into full view and as the engine bellows its way past you get a fleeting impression of hard work in progress.

As we came spinning down into the more gracious country of the Eden Valley I was glad several times over for the Midland custom of placing a metal "board" outside each tunnel entrance giving the name and the length of the bore. It would have been nice too if they had done the same for their many delightful viaducts. Helm Tunnel came and went, followed by Ormside and its viaduct, and then we ran by the depot outside Appleby which strikingly announces its purpose—*Milk for London*—where an engine was marshalling a number of milk tanks ready for their evening run to the south. My footplate companions wondered whether they might on arrival at Carlisle be detailed to assist this train on their return journey, as they had done on their previous trip. This road makes a train of 19 loaded milk tanks weighing 469 tons a job for two engines.

A careful stop was made at Appleby station so that we could draw up to the water crane. As we took on about a thousand gallons Driver Rose, a typically conscientious engineman, went round feeling the axle ends and other likely warm spots.

On leaving Appleby Fireman Spink had another round of firing, the first for about 20 miles. We took it easily across the bridge over the N.E. Region line to Penrith, as there was a 15 m.p.h. slack in force because of bridge repairs. Here for the first time on the trip we met a keen wind, something that is never far away on the Aisgill route.

So we swung on down, past wooded slopes and redstone outcroppings, through Culgaith and Waste Bank Tunnels and over the little hump at Lazonby. Soon after this we had full steam on again and more firing was done for the sharper rise that succeeds a wonderful view of the River Eden with the (*Continued on page 538*)

BOOKS TO READ

Here we review books of interest and of use to readers of the M.M. With certain exceptions, which will be indicated, these should be ordered through a bookseller.

"JOHN COBB'S JET CRAFT CRUSADER"

By COLIN STEWART
(Rolls House Publishing Co. Ltd. 2/6)

The story of endeavour to attain ever greater speed on water is as thrilling and dramatic as those of record speed achievements on land and in the air. It culminated in September of last year in the attainment of an average speed of 206.89 m.p.h.—the fastest ever on water—by John Cobb in his jet-engined craft *Crusader* during a single run on Loch Ness. The tragedy of his death within minutes of attaining his ambition snatched from him the reward of three years of preparation for his sensational triumph, and emphasised again the tremendous risks that attend those who seek to advance still further the record speed of travel on water.

This little booklet tells briefly the drama of this thrilling quest for speed, and without technicalities explains the basic problems involved in the development of the revolutionary design of *Crusader* herself and her power unit. There are many excellent half-tone photographs and drawings.

"RAILWAYS BEFORE THE GROUPING—No. 3" THE LANCASHIRE AND YORKSHIRE RAILWAY

By E. MASON (Ian Allan 3/–)

The Lancashire and Yorkshire Railway was not very well known outside its own territory. It was a line of vast industrial traffic, intense local passenger services, and annual mass train movements to and from Blackpool. It ran dining-car and Continental boat expresses, was the traditional home of the ornate residential "Club" trains and, not content with these distinctions, it was a pioneer in this country of electric traction, locomotive superheating and the use of high capacity wagons.

In 1922 this very individual line was merged with the L.N.W.R., and in his book the author gives what he calls a thumbnail sketch of things as they were before this event. For illustrations it has been possible to use some of the fine photographs taken over a long period by the late J. M. Tomlinson, of Poulton-le-Fylde, who specialised in camera work on this thickly-signalled line. There are other photographs as well, full of L. and Y. atmosphere.

"FLYING THE ATLANTIC"

By MANFRED REISS (Max Parrish)

This gay and colourful little book will delight young readers. It takes them on an imaginary journey across the Atlantic in a giant Stratocruiser, describing in a simple and chatty way, aided by coloured drawings, just what it is like inside this great air liner, what goes on during the trip and how everything works.

This book is available bound in stiff boards at 6/–, or in cloth at 7/6.

"THE BOY'S BOOK OF MODEL-MAKING"

Edited by STATON ABBEY
(Ward Locke 21/–)

Readers who delight in constructing models from either wood or metal will find many good ideas in this hefty volume, which caters both for the novice and the more experienced amateur craftsman. Each chapter is written by a well-known expert in the particular field, and in almost every instance the models have been specially designed for this book. They include model jet engines, buildings, traction engines and steam rollers, a motor car, model ships and powered boats, speed boats, steam engines, miniature theatre and a pumping windmill.

The Editor of the book writes on equipping a model workshop, the best materials to use, and the construction of a simple lathe from oddments. Model railway enthusiasts will find detailed instructions for the building and operating of clockwork and electric model railways. Aeromodellers are catered for by that well-known authority R. H. Warring, who deals with the various types of model aircraft and the types and operation of miniature motors for powered models.

Clear working drawings and photographs combine with the text to make the instructions easy to follow.

"WHALER ROUND THE HORN"

By STEPHEN W. MEADER (Museum Press 7/6)

Whale hunting is now a highly organised, scientific job, but a hundred years ago it was a thrilling and hazardous adventure. Rodney Glen, like many other New England boys of that time, had set his heart on being a whaler. When the chance came he shipped away, and by the time they reached Honolulu he was a well-seasoned hand. Shortly after Rodney put to sea again, the whale-boat in which he was stationed was smashed by a killer whale, and Rodney, the only survivor, was washed ashore on an island. During the many weeks that he was marooned there, with a Hawaiian boy as his only companion, he learned much of the island lore.

The thrill of whaling in those days and the magic of the Pacific islands are well brought out in this exciting story, which is illustrated with a coloured frontispiece and many fine drawings by Edward Shenton.

"PAINTING FOR PLEASURE"

By R. O. DUNLOP, R.A.
(English Universities Press 6/–)

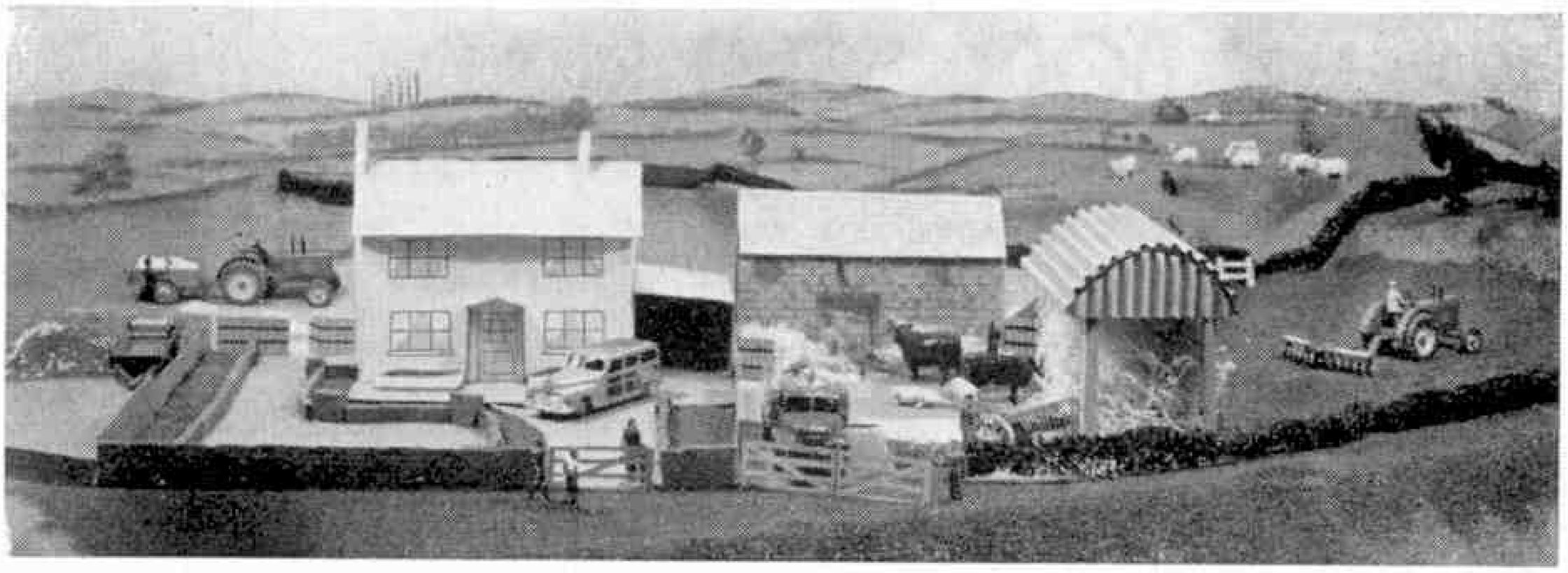
Many youngsters in their early schooldays show a marked aptitude for painting, but eventually lose sight of this talent in the press of other studies. This is a pity, as painting pictures just for the pleasure of doing so is a delightful hobby that can be followed equally well indoors or out-of-doors as subject or season demand. In this book Mr. Dunlop, who is a Royal Academician, gives valuable and practical instruction on how to paint in oils, water colours, oil and turpentine on paper, and pastels. The student is helped still further by many excellent line drawings, some of equipment and others of actual pictures, and several beautiful colour plates some of which are reproductions of the author's own works.

"DIESEL LOCOMOTIVES"

(The Times Publishing Co. Ltd. 1/–)

The use of diesel locomotives for passenger train haulage in this country is unusual enough to excite comment, although recently the London Midland "diesel twins" Nos. 10000 and 10001 joined their Southern counterparts Nos. 10201 and 10202 in running passenger trains in the Southern Region. The activities of these motive power units and other experimental locomotive types, which are helping to provide experience on which future diesel policy in British Railways can be based, are shown in a series of reproductions from *The Times Weekly Review* that make up the present booklet. Diesel railcars, including the well-tried units that have become familiar on old Great Western routes during the past 20 years, and the notable diesel trains of Ireland also are dealt with.

The reproductions are good. With one exception each occupies a whole page, the opposite page being taken up by descriptive matter. The exception is found in the centre of the booklet, where there is an attractive double page picture of a Western Region express hauled by the experimental gas turbine locomotive No. 18000.



DINKY NEWS

Life on the Land

By **THE TOYMAN**

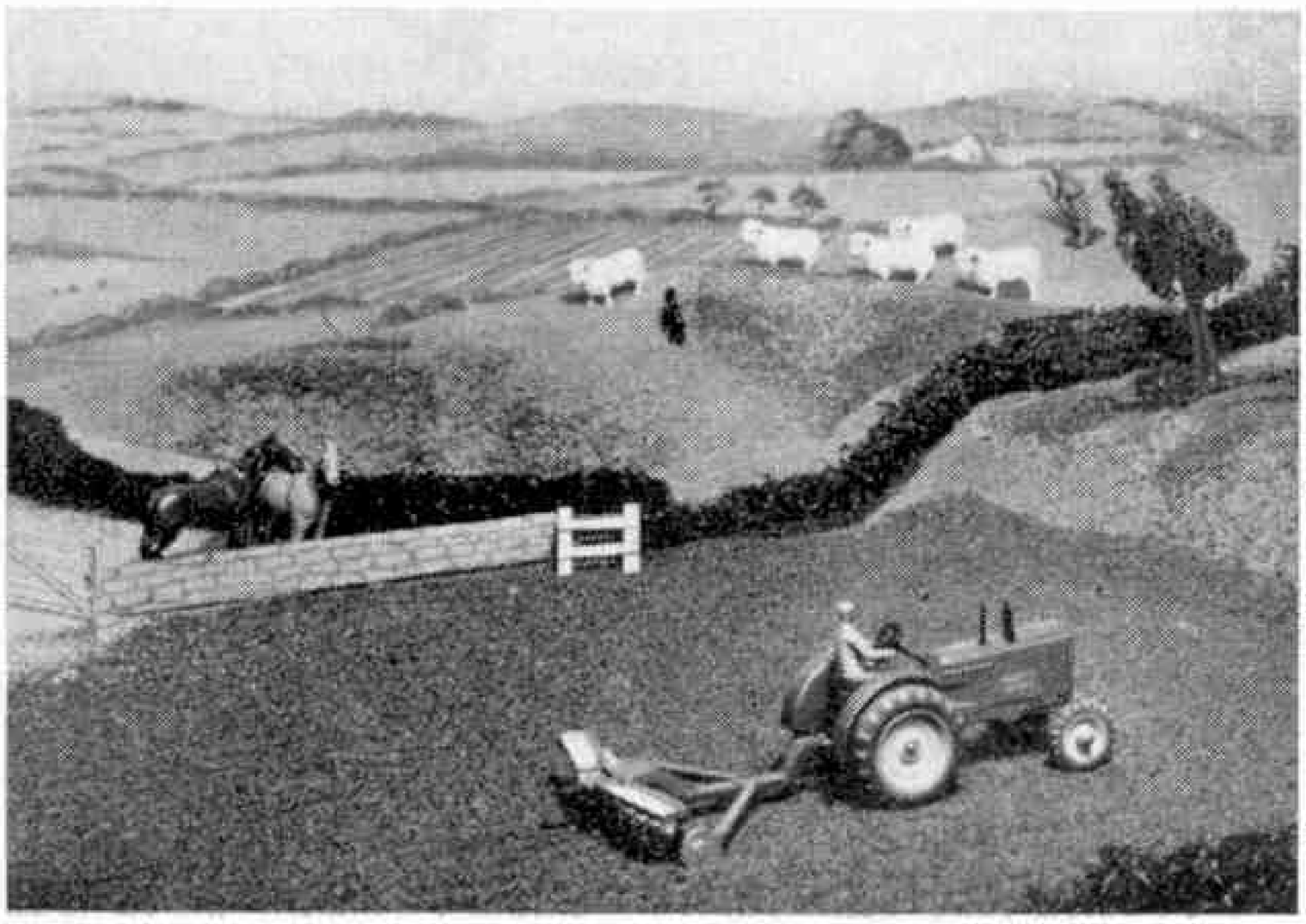
LAST month there was a newcomer to the competitors on Dinky Toys racing layouts. This was the Talbot-Lago Racing Car, Dinky Toys No. 23k, which is illustrated on the opposite page. The original is a well-known racing car, of 4½-litre capacity, made by one of the oldest established motor car firms in France, the Talbot-Darracq concern.

As a miniature of a French car this new Dinky Toy is appropriately enamelled in light blue, which is the colour used in international racing by French entrants. The original has distinguished itself in races of all kinds in various countries, and I am sure that the miniature will have an equally successful career in the hands of Dinky Toys enthusiasts.

I am still busy with Dinky Toys layouts, which appeal to me more and more as ideal ways of providing means of playing with Dinky Toys. As a glance at the illustrations on this page will show, I have now turned my attention to farming! In doing this I must surely be following the example of many enthusiasts. The miniatures of agricultural implements, including of course the splendid Farm Gear Gift Sets, are among the most attractive of all Dinky Toys, and they look at their best when they are displayed in surroundings that are natural to them.

I was a little surprised to find how easy it was to make up an attractive farm layout. Only a few buildings are required to give the appropriate realistic air, so that a farm layout can be built up much more quickly and easily than a town layout, and yet is no less effective. With this you will readily agree when you look at the pictures on these pages of the buildings of a mixed farm, surrounded by fields and with rolling hills in the background. There is a most life-like air about them, and of course the Dinky Toys so realistically placed add the final convincing touch.

The first essential for a layout of this kind is a



The illustrations on this page show an attractive Dinky Toys farm. Farming operations on such a layout can be varied to suit the season of the year.

length of canvas or fairly heavy cloth to represent the fields. Green baize is ideal for the job, and if a suitable length is available so much the better. If not, it is quite easy to paint or dye canvas a suitable shade of green. The "hills" or downs in the background are made by laying the cloth or canvas over boxes or blocks of varying sizes.

They should be included in every farm layout, for they give an impression of depth to the scene, especially when they blend neatly with a suitably painted backcloth, and they provide an ideal ground for the sheep of the Shepherd Set, with the Shepherd himself and his Dog.

The layout represents a late autumn scheme, when the crops have been harvested and the farmer is preparing his fields for next season. You will notice that the barn is well stocked with "hay" to provide winter feed for the livestock, and in one of the fields a Disc Harrow hauled by a Massey-Harris Tractor is busily at work. The ploughed field calls again for an old standby, dyed sawdust, scattered fairly thickly over the base cloth. A Disc Harrow drawn over the sawdust makes realistic furrows.

Our farmer is evidently fairly prosperous and has been able to build quite a modern home for his family. His farm house is made from thin cardboard cut to shape and glued together; the windows and doors are drawn on the cardboard, but in a more ambitious scheme the windows could be cut out and glazed with celluloid. He has a fine tractor, the Dinky Toys Massey-Harris in fact, and his garage houses a Dinky Toys Estate Car and a Leyland Comet Lorry. As he is a neat and careful worker he has provided a drive made from cardboard laid on the base cloth. No mud and ruts on his farm!

The barn is a simple affair of corrugated packing paper, supported on four wooden posts, and in it is his "hay," simply but well represented by a bundle of tightly packed straw. The hedges are strips from an ordinary loofah dyed dark green and pinned to the base cloth. Fences are easily made by marking the necessary details on strips of card, as I did when building up the layouts previously illustrated in the *M.M.* Those who know the moorland districts of the north could build good representations of dry stone walls, made in a similar manner, on the hills in the background.

A life-like scene in the Dinky Toys farmyard.

One of the best features of a Dinky Toys farm layout is that it can be changed with the seasons, so that there is always something new to do on it. The range of Dinky Toys farm vehicles and equipment is now so great that it is easy to vary the work represented to make it suit the time of the year.

Why not try something of this kind for yourselves? If you do this write to tell me about your layouts, and to let me know of any novel plans you have worked out to display your Dinky Toys to the best advantage. If you have any good photographs send them too. I shall be very glad to reproduce these in the *M.M.* if they are suitable and likely to be helpful to other Dinky Toys enthusiasts,

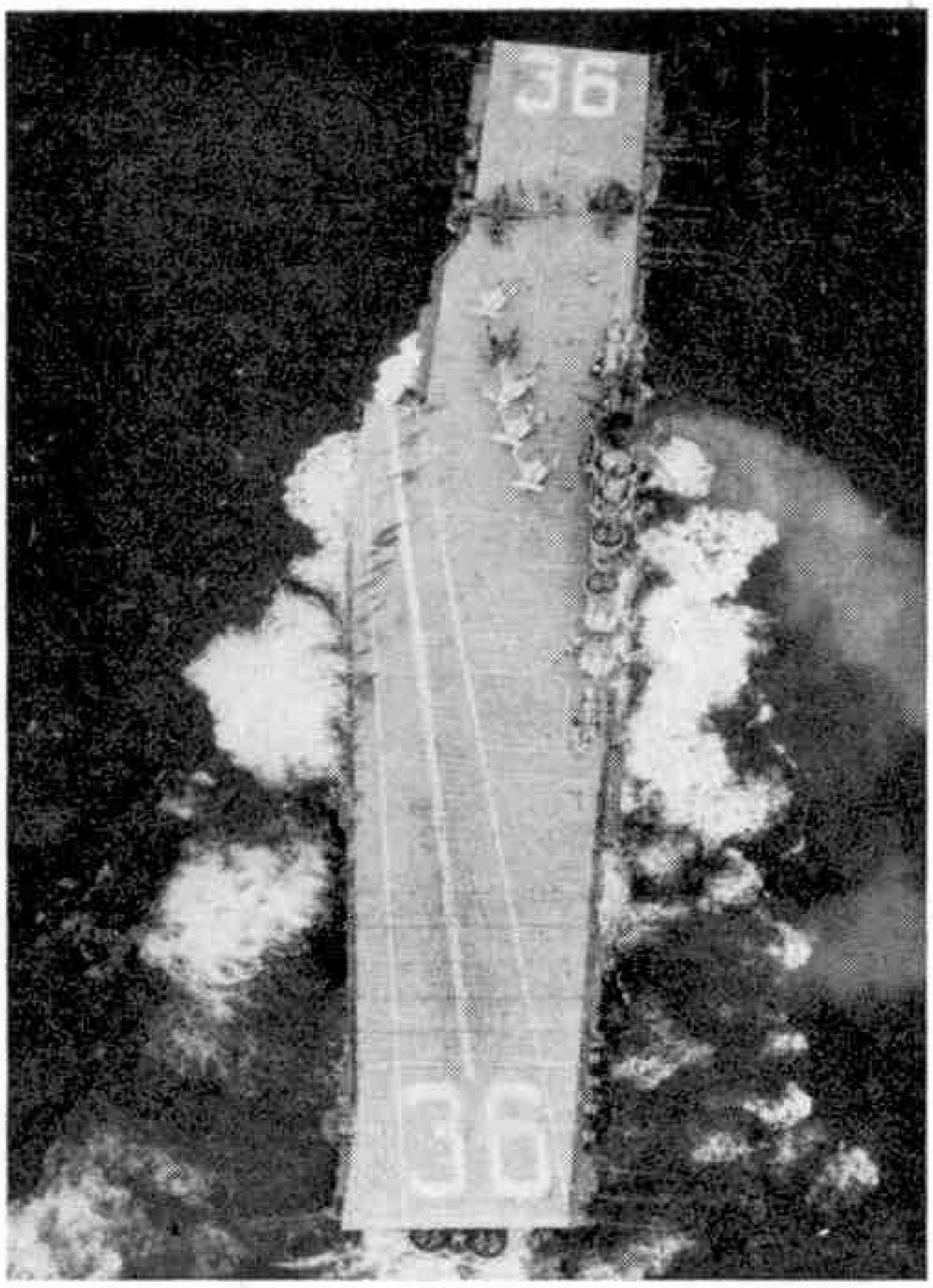
The Talbot-Lago Racing Car, Dinky Toys No. 23k.

Aboard the *Antietam*

By John W. R. Taylor

IF you have ever been aboard an aircraft carrier at sea, you will know how difficult it is to avoid using all the adjectives in the dictionary when writing this kind of story. Everything about a carrier is enormous and awe-inspiring. The sight of its aircraft being flung into the air by catapult and then slammed to a sudden stop by the arrester gear when landing is almost frightening. The skill of the pilots is something that has to be seen to be believed.

I was able recently to spend a day at sea aboard the 27,100 ton American carrier U.S.S. *Antietam*, during her brief demonstration visit to British waters, and I think you might like to know something about her, as she is no ordinary ship. In fact, the *Antietam*—which is named after a famous battle in the American Civil War and pronounced "An-tee-tum"—is the first of a completely new generation of aircraft carriers.



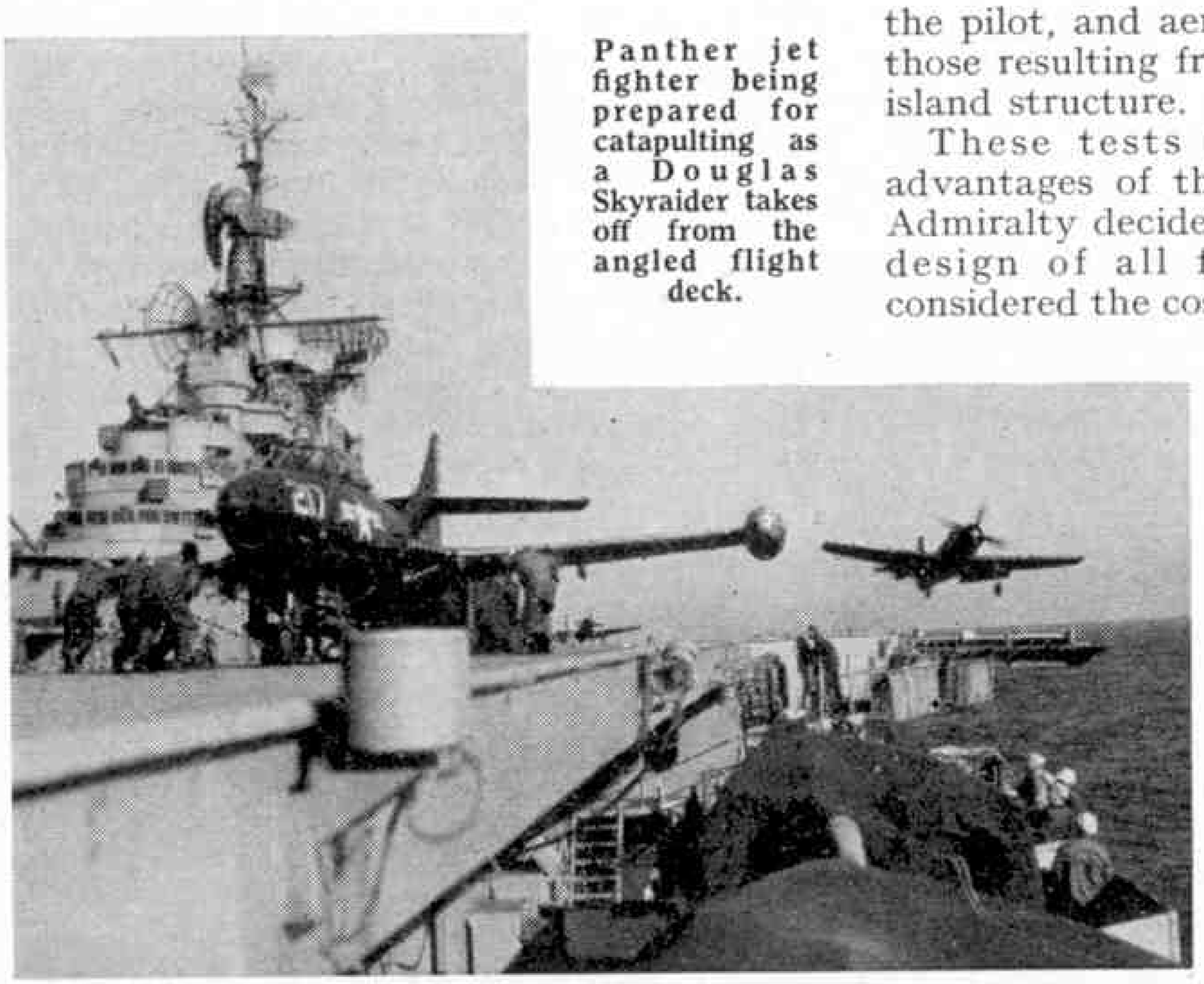
The American aircraft carrier Antietam, with Grumman Panthers and Douglas Skyknights ranged on her deck.

She looked little different to any other carrier as our pinnace bobbed through the Solent towards a tiny gangway set against the acres of grey-painted steel plate that make up *Antietam's* starboard side. Far above us towered the "island," with its control cabins, guns and maze of radar and radio aerials. On deck we caught exciting glimpses of aircraft we had never seen before, including Panther jet fighters; Skyknights; a cluster of Guardian anti-submarine bombers, seeming far too big to operate even from *Antietam's* 876 ft. deck; a Piasecki HUP-2 helicopter, and the familiar outline of a pair of the Royal Navy's new Sea Hawk interceptors.

It was only later that we had an opportunity to inspect the feature that makes U.S.S. *Antietam* the shape of the future in aircraft carriers. Jutting out from her port side is an extra flight deck which enables her to operate aircraft more intensively and safely than any other carrier in the world. And, as our American hosts were quick to admit, this "angled deck" is a British invention.

The idea was born in August 1951, when it was already obvious that introduction into service of jet fighters would require entirely new landing and take-off techniques if carrier efficiency was to be maintained. During operations with piston-engined aircraft, it is possible to use the forward half of the deck for accelerated (catapult) take-off even when other aircraft are landing on the rear deck. Any aircraft unlucky enough to miss the deck arrester wires when landing is simply caught by a nylon and steel crash barrier erected across the deck some distance forward of the wires. Unfortunately, crash barriers could not always be relied upon to stop a ten-ton jet 'plane, coming in, perhaps with its flaps out of action, at well over 100 m.p.h., without serious consequences for the aircraft and its pilot.

Many alternatives were studied. The obvious one, of clearing all aircraft off the foward deck into the below-deck hangars while landings were being made was impracticable. It would not only have reduced the number of aircraft that could be carried, but would have left the ship defenceless if she were attacked while



Panther jet fighter being prepared for catapulting as a Douglas Skyraider takes off from the angled flight deck.

some of her squadrons were returning, as the latter might have insufficient fuel to circle while interceptors were catapulted off.

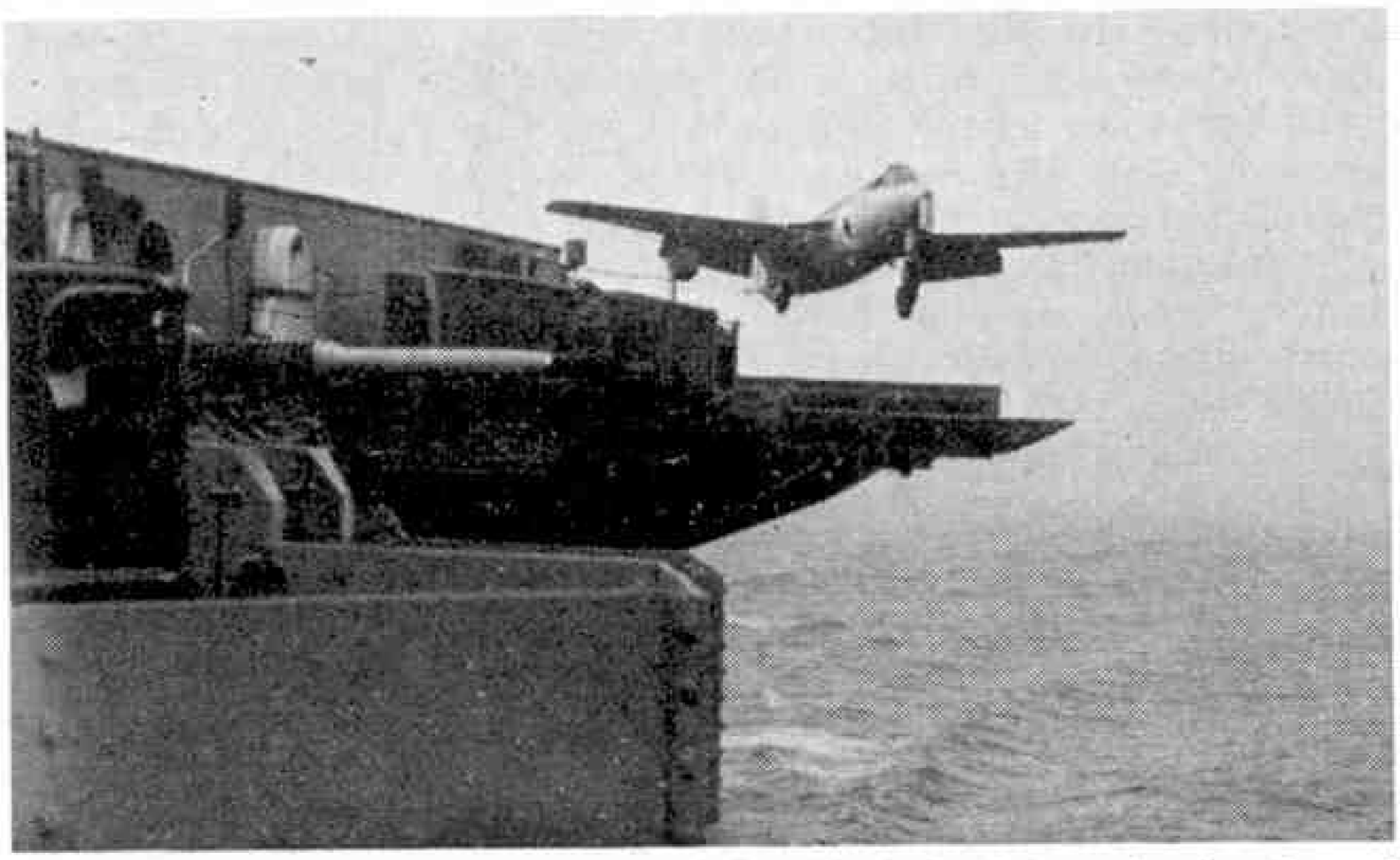
Similarly, to ask for a ship with two parallel decks, one for landing and one for take-off, would have given naval architects and shipbuilders nightmares.

It was Capt. D. R. F. Campbell, D.S.C., R.N., in conjunction with Mr. L. Boddington of the Royal Aircraft Establishment, Farnborough, who finally suggested the angled deck, which, by the simple addition of a wedge-shaped extension to the port side of the flight deck, has the effect of increasing its length by 40 per cent. The photograph on the previous page shows what it looks like.

Drawing board work, theoretical calculations and marking out of the flight path on a model were followed by trials in H.M.S. *Triumph* and H.M.S. *Illustrious*. The shape of an angled deck was painted across the normal flight deck of *Triumph*, without extending it past the side and without altering the arrester wires. Aircraft flew from it to test the visual problems presented to the pilot, and aerodynamic effects such as those resulting from wind flow around the island structure.

These tests left no doubt of the advantages of the angled deck, and the Admiralty decided to incorporate it in the design of all future carriers. They considered the cost of converting the Royal Navy's present carriers too high to be justified. But, as part of the normal routine of Anglo-American collaboration, the U.S. Navy had been told all about the angled deck right from the start, and they decided to undertake the complete conversion of U.S.S. *Antietam*, including the angled deck, angled arrester wires and flight deck extension. Which explains why the Americans were first in the field with this British invention, which they call a "canted deck."

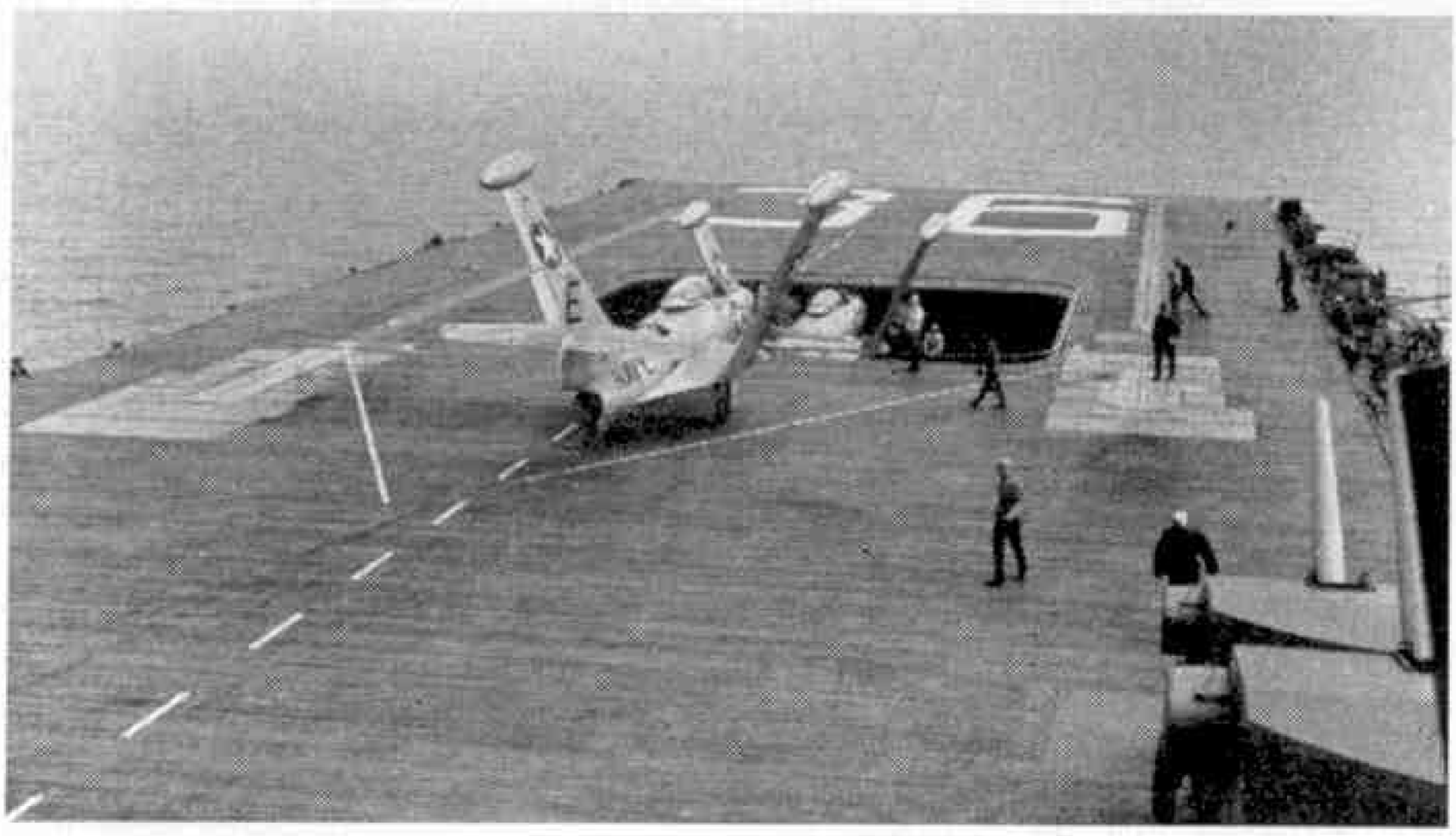
Although it does not improve the appearance of an aircraft carrier, the angled deck is perhaps the greatest contribution ever made towards increasing the efficiency and safety of carrier operations. If a pilot comes in to land too fast, or misses the arrester wires, he no longer finds himself hurtling towards a crash barrier or aircraft parked on the fore-deck. He merely has to open his throttle and fly on over the open angled deck for a second landing approach. If,



One of the Royal Navy 806 Squadron's Sea Hawk jet fighters leaving the end of the angled deck. Photograph by courtesy of Hawker Siddeley Group Ltd.

at the worst, his engine fails to pick up power or cuts completely, he will land on the sea well clear of the port side of the carrier, and would be picked up in a matter of seconds by the ship's "plane guard" rescue helicopter.

Landings can be made quite happily with more than the usual number of aircraft ranged on the fore-deck. In action, jets could be catapulted off the fore-deck and piston-engined aircraft flown off the angled deck at the same time. We saw this done on *Antietam*, and it was most impressive. The ship was headed eight degrees out of wind, so that the angled portion of the deck faced directly into wind. The big piston-engined Guardians then proceeded to demonstrate their incredible take-off performance by flying off the angled deck, whilst Panthers and Sea Hawks, were catapulted off the fore-deck.



Panther aircraft going down the lift to the below-deck hangars. At one stage they were landing and going below at 30 sec. intervals. Photograph by courtesy of Hawker Siddeley Group Ltd.

It was interesting to compare the take-off performance of the two types of jet fighter. The heavily-loaded American Panthers climbed very slowly after leaving the deck. The lighter Sea Hawks from the Royal Navy's No. 806 Squadron, with big "Ace of Diamonds" emblems painted on their sides, went up like lifts, but tended to "crab" sideways a little in the cross-wind.

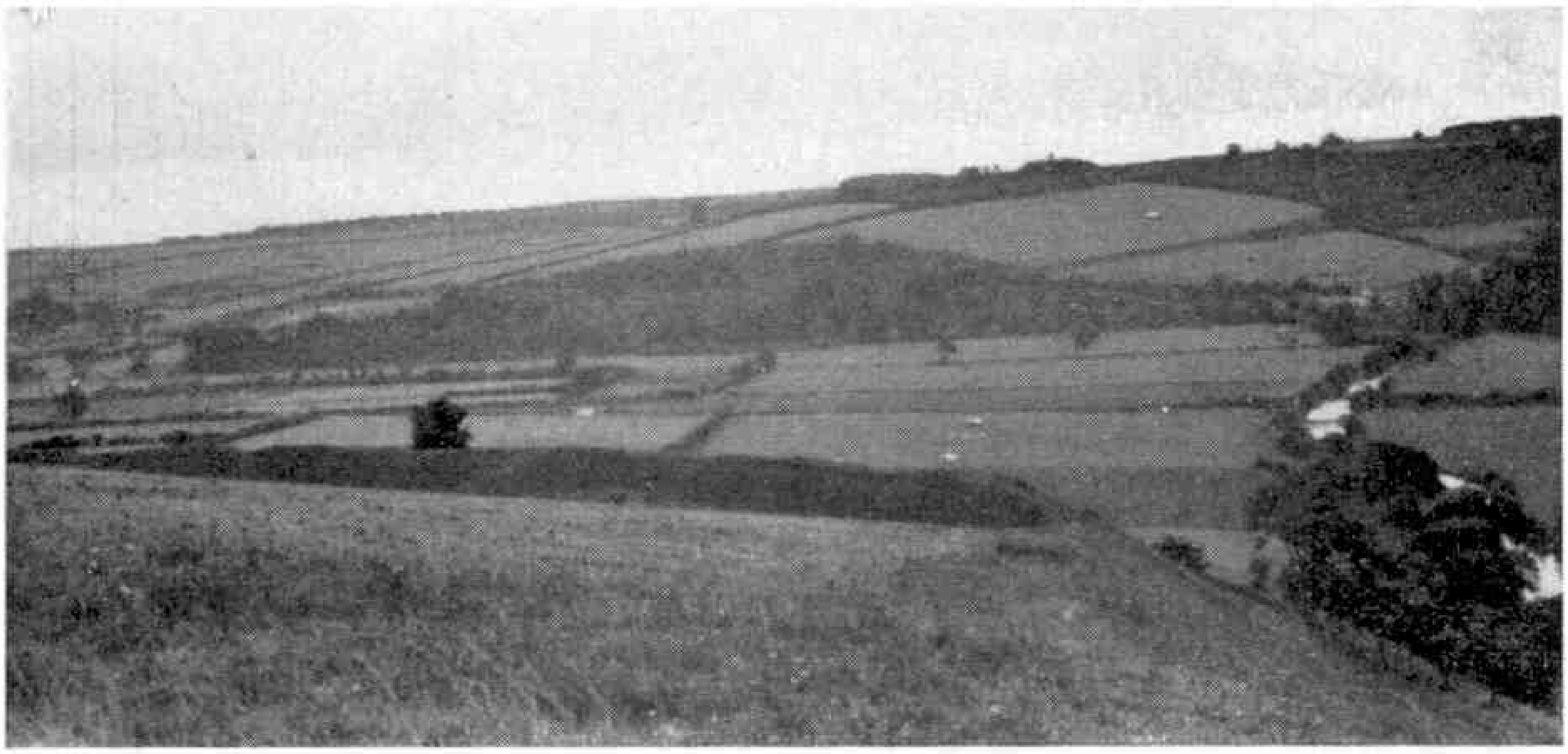
On the score of piloting skill, both the British and American pilots were magnificent, especially in the "touch and go" practice landings when, instead of landing with arrester hook down, they simply allowed their wheels to brush the angled deck and then roared into the air again. We felt especially proud of the British lads, who were making their first landings on an angled deck.

Its value was proved dramatically when the arrester hook of a Royal Navy Attacker jet fighter snapped off as soon as the aircraft snagged an arrester wire. The best the pilot could have hoped for on an orthodox carrier would have been to end up surrounded by crash barrier and bent aeroplane. Instead, with great presence of mind, he rammed open his throttle and, being close to land, made off for the nearest Royal Naval Air Station.

It is this sort of thing that has enabled *Antietam* to amass the incredible total of well over 5,000 accident-free landings since she was converted in January of this year. After every 1,000th landing, her commanding officer, Capt. S. G. Mitchell, U.S.N., presents a cake to the pilot concerned. With typical American kindliness, the men of *Antietam* allowed a British pilot—Lt. Cdr. D. G. Parker—to make the long-awaited 5,000th landing, in a Sea Hawk; and what a cake he received! Weighing about 35 lb., it was made in the shape of the ship, complete with angled deck, sugar-icing superstructure and tiny model planes—including a Dinky Toys Meteor. It was very good cake too. I know, because, after the Capt. and Cdr. had cut it with a ceremonial sword, we all had a piece.

As a point of interest, of the pilots who made the 5,000 landings, 50 had never flown a jet on to a carrier before and 30 had never landed any sort of aeroplane aboard ship. In 115 cases they failed to catch an arrester wire first time, mainly because their hooks hit the deck too hard and bounced over the wires. Normally, every one of those 115 aircraft would have run on into the crash barriers, and finished up the worse for wear. As it was, they simply went round for another approach.

The U.S. Navy is already building angled decks on two more of its existing carriers, and its (*Continued on page 538*)



Excavating in Dorset

By F. W. Robins, F.S.A.

THE valley of the Dorset river Stour is dominated by a series of great earthworks, starting—or finishing—with the promontory fort of Hengistbury Head, in Hampshire, jutting out to sea east of Bournemouth. All of them have warranted excavations and yielded results of interest from time to time. Just north of Blandford, the nearly adjoining heights of Hod Hill, 471 feet, and Hambledon Hill, over 600 feet, present marked contours that make them striking features of the landscape, whether viewed from the roads east and west of them, or from the Bournemouth-Bath railway line. Both have been excavated in the past, and Hod Hill in particular has provided Roman and Iron age finds that are the subjects of numerous references in the British Museum Guides.

In the foreground of this picture is a corner of the Roman fort on Hod Hill, Dorset, where the author helped in the excavation described in this article.

Hod Hill is unusual, in being a Roman fort "planted" in one corner of a British camp, and occupying something less than a third of the latter's area. In 1951 a new excavation was started with the cutting of sections through the earth walls of both camps and the opening up of the Roman eastern gateway, this latter of double carriage-way construction like the gateways of Roman towns. This year, the southern gateway, overlooking the river Stour, a small affair with a single way, has been exposed. Before the entrance, in both cases, an outwork provided further protection beyond the flanking walls, and just behind, and to the side of each entrance, a ballistarium afforded a platform for a "ballista" or machine for throwing projectiles.

In these days of scientific excavation, finds, except those of special interest, are not the sole or even the main objectives of the work, which are to plan the layout of a structure, date it, and learn something of its purpose. A trial "dig" having located a wall or building, it is followed along, the turf and top soil being removed by pick and shovel to the level of the foundations. A solid stratum means undisturbed soil with nothing beneath, but one has to distinguish between this and the close packing one sometimes encounters. Post holes, present when the buildings were of timber or wattle and daub, as at Hod Hill, are indicated by a wide circle at top level, with a smaller hole in the centre, the top portion of course having been filled with packing after the post was inserted in the smaller and deeper central hole. Now and again a "cavity" is found in which loose or disturbed soil goes deeper. This, possibly a refuse pit, must be investigated, not only to establish its nature, but because of the likelihood of "finds" in such places, especially pottery, so the "pit" is followed down until, again, the solid bottom is encountered. Markedly black earth means

Standing in the gateway of the ancient British camp on Hod Hill.

human debris and the great possibility that it will contain something—pottery, food refuse, and some other things perhaps.

Working in such situations, one rarely uses a pick. Mostly it is trowel and shovel work, keeping a sharp look-out, not only in digging, but also in throwing up the soil, for fragments of interest, which it is not difficult to overlook. Everything worth keeping or recording goes into a tray or dish one keeps beside one, to be sorted, cleaned, and eventually sent away to the British Museum if judged worth preserving.

The excavations in May and June of the last two years have been devoted principally to unearthing the two main streets, foundations of the Prætorium or headquarters, and the barracks. This year, the post holes and foundations of a granary raised above the surface of the ground have been traced. There has been evidence that the camp was used by mounted troops, among others. The local hunt still rides the hill, but even so, with its steep sides and an elevation of nearly 500 feet above sea level, it seems a curious post for cavalry, though bearing in mind the fact that Roman cavalry were used in the last modern fashion, as patrols, scouts and vedettes, rather than en masse. As the camp was a temporary one, only the bottom courses of the buildings were of stone or flint, the upper walls being of "wattle and daub," that is straw or reeds and clay, and burnt daub, red crumbly clay substance, was ubiquitous in the "dig."

In 1951, the present author visited the excavations and in each of the two following years he has joined the working party as a volunteer for a period. There is always an element of the unexpected in archæological excavation that gives it an interest and a sense of adventure. It is not, however, all excitement; most of it is sheer humdrum patient hard work, but there is always the possibility of a thrill lying under the next few inches of soil.

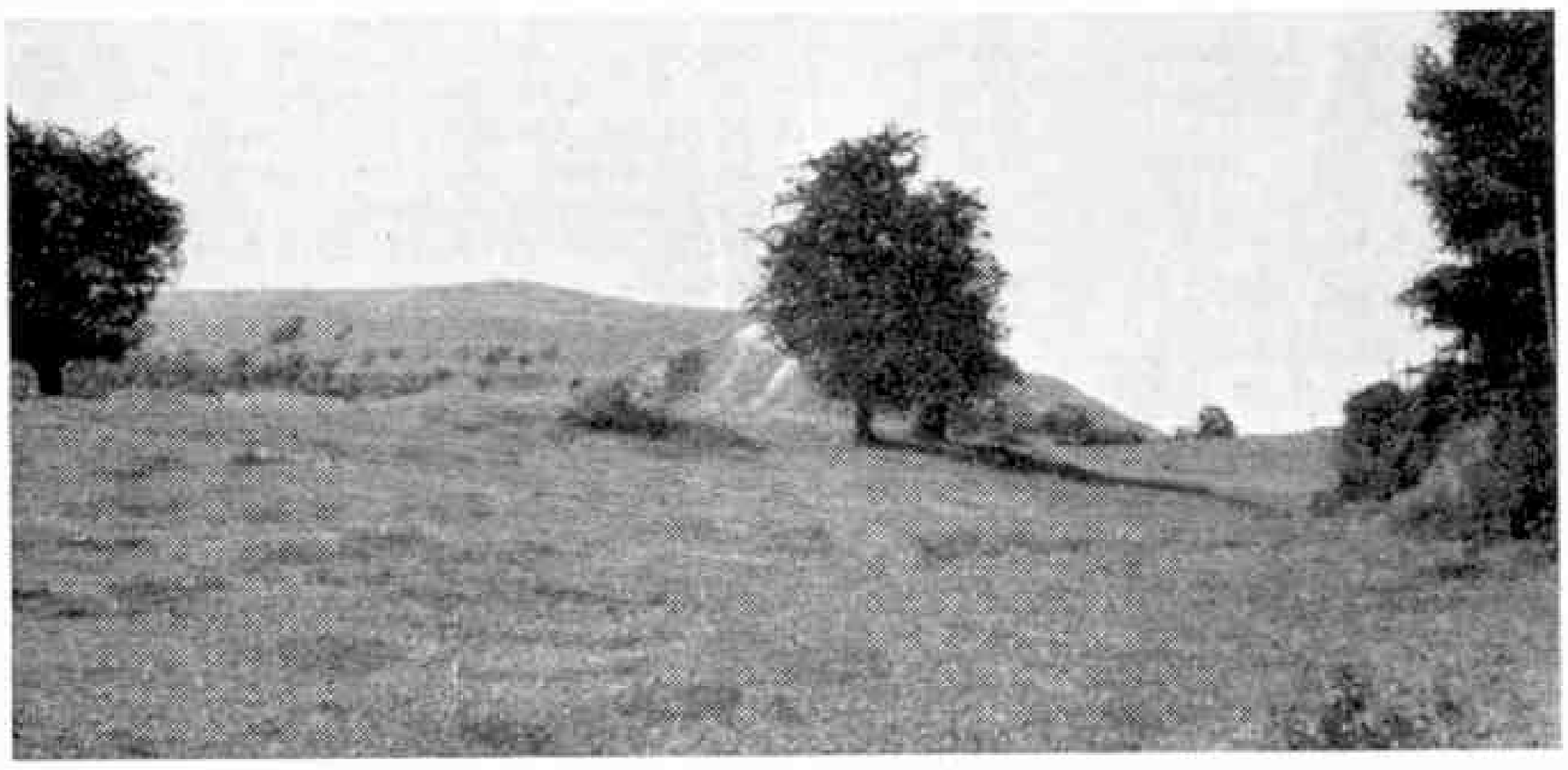
The author was given a rubbish pit in the Roman fort to excavate and here it is! How he unearthed an important find in it is explained in the article.

Last year, working in a rubbish pit in the Roman fort on Hod Hill, I had been turning up all one day nothing but scores and scores of oyster shells—the Romans were great consumers of British oysters—small fragments of British and Roman pottery, bits of charcoal and bone, together with fragments of burnt daub, when, with closing down only

half an hour ahead, I found a small piece of bronze, encrusted on one side with iron rust, sure proof that it had been attached to something iron that had corroded away. It was unidentifiable, but possibly an attachment from Roman armour.

A quarter of an hour or so later, out from the side of the pit came a perfect "Hod Hill" bronze fibula or brooch, the better of two found during the season's working. It was like scoring a winning goal, just on time!

The first job I was given in 1952 was a suggested Roman refuse pit that proved to be a blank. A second yielded nothing but a band of charcoal. Both were speedily abandoned and it was a third in which the bronze fibula was found. Before this occurred, there had been days of oyster shells, small pottery shards by the score, with an occasional nail or the like small item. At the end of my stay, I had not reached the bottom of "my" hole, though delving deeper and



Hambledon Hill, which is near Hod Hill, is also the site of ancient earthworks that have attracted the attention of archæologists.

deeper into it; after I left, my successor unearthed a coin of Claudius, in mint condition, which completely confirmed the dating already given to the fort. Archæology is a very exact science in these days.

This year I stayed rather longer, putting up at an inn at a neighbouring village, as I was rather too far from home to return each day. Incidentally, some of my evenings were spent chatting with the villagers in the bar and I was able to kill another bird with the same stone by gathering material from the "locals" about the smithcraft and smith traditions that were once a feature of Iwerne Minster and its neighbourhood, to include in a forthcoming book.

My latest task was to clear a pit originally thought to be another Roman refuse pit. It soon appeared to be something other than this; the usual finds of a refuse dump were scarcely represented and oyster shells, prominent wherever the Romans settled, were conspicuous by their absence. The first consideration was to get the outline and dimensions of the cavity, and this was done by the second day, except for the depth; then the centre had to be cleared and its function determined, but yields got more and more sparse—the usual bits of charcoal, a few burnt and split bones, two lots of animal teeth, one or two nails, and many small fragments of pottery, some of a coarse buff Roman ware, but more of the native "Belgic" ware, black outside and red inside. One tiny fragment of bronze turned up and some pieces of slag, with green bronze "staining."

Soon I came to chalky soil empty of all evidence of human occupation. That was where I learned an important lesson, for I would myself have thought it hardly worth while going on. It was however, considered advisable to reach the unmistakable bottom of the pit, on the solid chalk, so I went on. Again the unexpected happened, for, five or six feet down, the black earth, the soil of human refuse, began to appear again and suggested possibilities of finds. Sure enough, first quantities of animal bones and then coarse black pottery appeared—no intact vessels, but large fragments with rims and bases, enough to enable the pot forms to be reconstructed.

The find was important, for it was of pottery much earlier than that found before, dating indeed from the 2nd century B.C. or so. Seven or eight feet down, the bottom of the pit appeared, and the task was completed, just within the period of my stay. That final find had made all the work worth while.

"A busman's holiday" or a navvy's perhaps, but an interesting one, though somewhat strenuous—especially with that climb of three hundred feet or so up a steep path from the road level each morning and a blustering wind blowing hard.

An impressive view of A1 Pacific No. 60158 Aberdonian leaving York on the up Northumbrian. Photograph by R. F. Roberts.

Railway Notes

By R. A. H. Weight

Speed-up In Winter Timetables

The introduction of the winter timetables has brought an increase in the average speed of Britain's fastest train, leaving King's Cross at 7.50 a.m., which now calls in order to make a Sheffield connection at Retford. This is being timed to cover 106¾ miles from Hitchin to Retford start to stop in 97 min. at an average speed of 66¼ m.p.h. A Darlington and Newcastle portion also is conveyed. This is detached from the Leeds and Bradford section at Doncaster and run forward on a fast schedule, passing York. This businessmen's express is also operated similarly in the evening from the north to London on timings almost as fast each weekday, except on Saturdays. The overall journey time northbound from London to Sheffield although including a change at Retford, 3 hr. 10 min. by this service, is the quickest by any route since the outbreak of war in 1939.

A Pullman service from London to York, with connections to Scarborough and other towns, is provided from Mondays to Fridays as another of the fastest long-distance expresses: *Tees–Tyne Pullman* from King's Cross calls at York.

More of the Western Region timings have been accelerated, so re-creating to a welcome extent the old Great Western prestige for fast running. The midday 2-hr. Bristol–Paddington express has been restored running non-stop by the Badminton route, 117½ miles; the 9.0 a.m. trains in each direction have also been quickened to a 2-hr. run between Paddington and Birmingham (Snow Hill) over a difficult route. Start-to-stop times averaging 60 m.p.h. also are scheduled for the 1.15 (Bristol and Weston-super-Mare express) from Paddington to Bath, and the up Cheltenham morning fast train, along the 91 miles from Kemble to Paddington.

Altogether 27 start-to-stop runs at speeds averaging a mile-a-minute or faster are booked this winter compared with three a year ago. The *Devonian* through service between Bradford and Leeds and Torquay and Paignton is being continued throughout the year; a day service is provided from Plymouth to Scotland; there are more sleeping and refreshment cars.

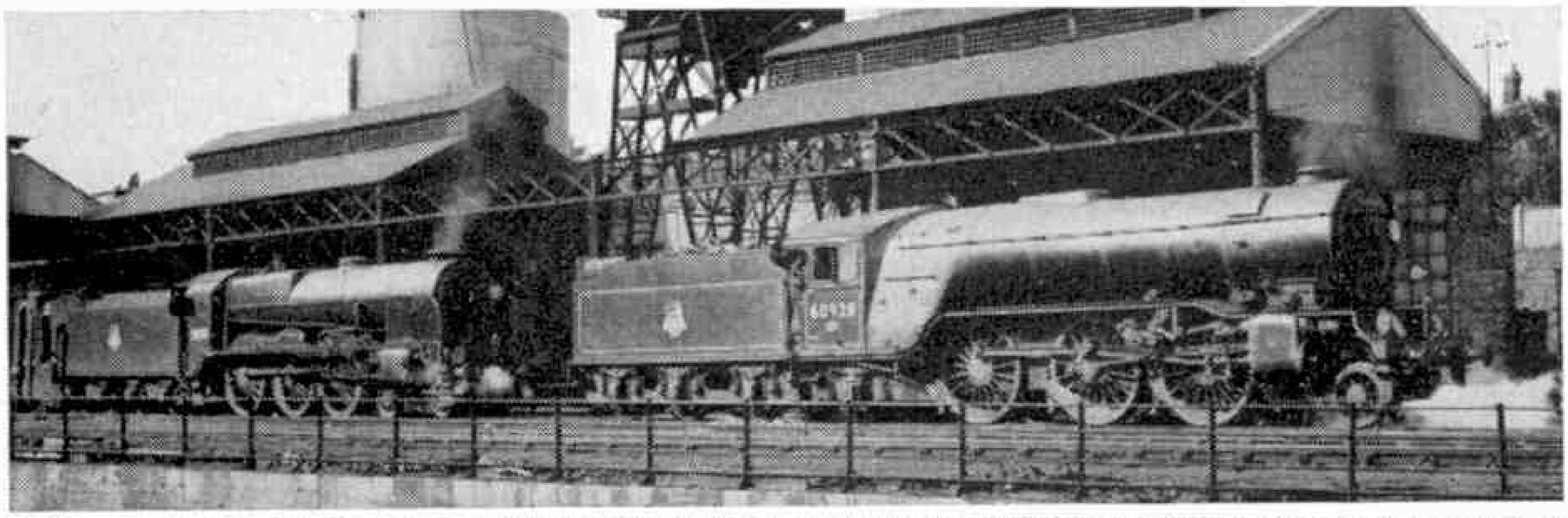
Southern Travels and Observations

A special word of praise is due to all concerned in the Southern Region for their extremely efficient organising and handling of the vast special passenger traffic entailed by the Royal Review at Spithead in June last. Over 100 additional trains were run between London, Waterloo or Victoria, and the Southampton–Portsmouth area, on the Monday–Tuesday, steam and electric, at close headways, with remarkably little delay or interference with ordinary services which are intensive, particularly in the London district, morning and evening. Many other specials from other places, both loaded and empty, also were needed. Exceptionally, Royal Trains were operated electrically, one from London to Portsmouth, and three from Portsmouth to Windsor including that conveying H.M. The Queen. The 5-car Pullman set which is one of these used for the *Brighton Belle* and Eastbourne Sunday Pullman services, made several such journeys; and a 6-coach set including Pullman car *Peggy*, normally running on the fast Sussex coast services, became temporarily a Royal train for another journey. Electric locomotives were used for specials between Victoria and Chichester; light Pacific, Lord Nelson, King Arthur and Mogul classes were strongly represented among the steam engines employed.

In the following month I was at Southampton lunching luxuriously on board the Royal Mail liner *Alcantara*. During my journeys down via Basingstoke and back along the coast through Portsmouth and Brighton, I did not happen to see a single L.S.W.R. 4–4–0 on a passenger train as had always been the case hitherto. On local trains I travelled behind one of the new B.R. class 4 2–6–0s of the 76005–19 batch, allocated to Eastleigh or Bournemouth; an L1 4–4–0 transferred from Bricklayers' Arms; a Maunsell U 2–6–0; a W.R. Hall, working from Reading to Portsmouth; noting a connecting train at Eastleigh hauled by a class 2 L.M.R. type 2–6–2T, known as "Teddy Bears" as are some of the larger varieties.

Several diesel-electric locomotives have been under repair at Brighton including L.M.R. ones transferred. Main line diesels numbered 10000–1, 10201–2, are stationed at Nine Elms. No. 10203 is under construction at Brighton where new 2–6–4T, 80068 was lately noted on trial runs.

The heavy *Night Ferry* boat express from Dover to London conveying through Paris sleeping cars has been noted double-headed by a Battle of Britain and a Schools class engine, also a Schools and an L1. The usual motive power is a Merchant Navy 4–6–2. L1 and L 4–4–0s have been running fast Kent coast trains on busy days with loads up to 10 corridors to and from London, Charing Cross. I saw an L1 leave Redhill for Ramsgate, which would not encounter such severe gradients, with a 12-coach restaurant-car train from Birkenhead and Wolverhampton, and heard of one of the two remaining unrebuilt S.E.C.R. 4–4–0s, No. 31315, of the smaller class E, tackling 11 from Redhill to Brighton. The train was brought into Redhill by a W.R. Mogul, as on the occasion a few Saturdays previously when I saw it there. Then the S.R. engine taking over at the other end was an N 2–6–0, actually 31864, but with no visible number on near cabside. An Atlantic came through on the Birmingham-Sussex summer train.



A Gresley Green Arrow and a Southern Nelson Class 4-6-0 Lord Collingwood make strange stable mates at Bournemouth. The "foreigner" was on temporary loan to the Southern Region earlier this year. Photograph by R. D. Stephen.

These surviving 4–4–2s have again been called on a good deal for such through and special train duties, which have also featured Q1 0–6–0s (two on one train down from Kensington (Olympia) one Saturday morning); modern 2–6–4Ts; K and Maunsell 2–6–0s of various classes.

Following a splendid run from Polegate to Brighton by 30909, *St. Paul's*, with 11 heavy coaches on a Hastings–Eastbourne–Birmingham train, 2–6–4T, 42082, with poor coal and a good deal of local line running, found it rather heavy going on such a load from Brighton to Redhill, though only losing about 1½ min.

With the 8-coach Leicester through train, a West Country gained considerably on the Croydon-Brighton schedule when signals permitted fine running; a K 2–6–0 took charge from Brighton to Eastbourne where, after another reversal, the final stage to St. Leonards and Hastings saw a B.R. 2–6–4T, bunker first, at the head of the train. Another of these new locomotives attained speeds of 70 m.p.h. and over during a Croydon–Eastbourne run with a Midlands through train.

Drummond ex-L.S.W.R. D15 4–4–0s, 30464–5, long absent from London as regards shed allocation, were transferred to Nine Elms and used on the summer Waterloo–Brockenhurst, for Lymington Pier, holiday trains. No. 30915, *Brighton*, stationed at Stewarts Lane, was reported on a Royal race special to Epsom, then on Newhaven boat trains. Dining car race specials to Ascot were hauled by light Pacifics; a Pullman one to Epsom by an N1.

Locomotive Stock Changes

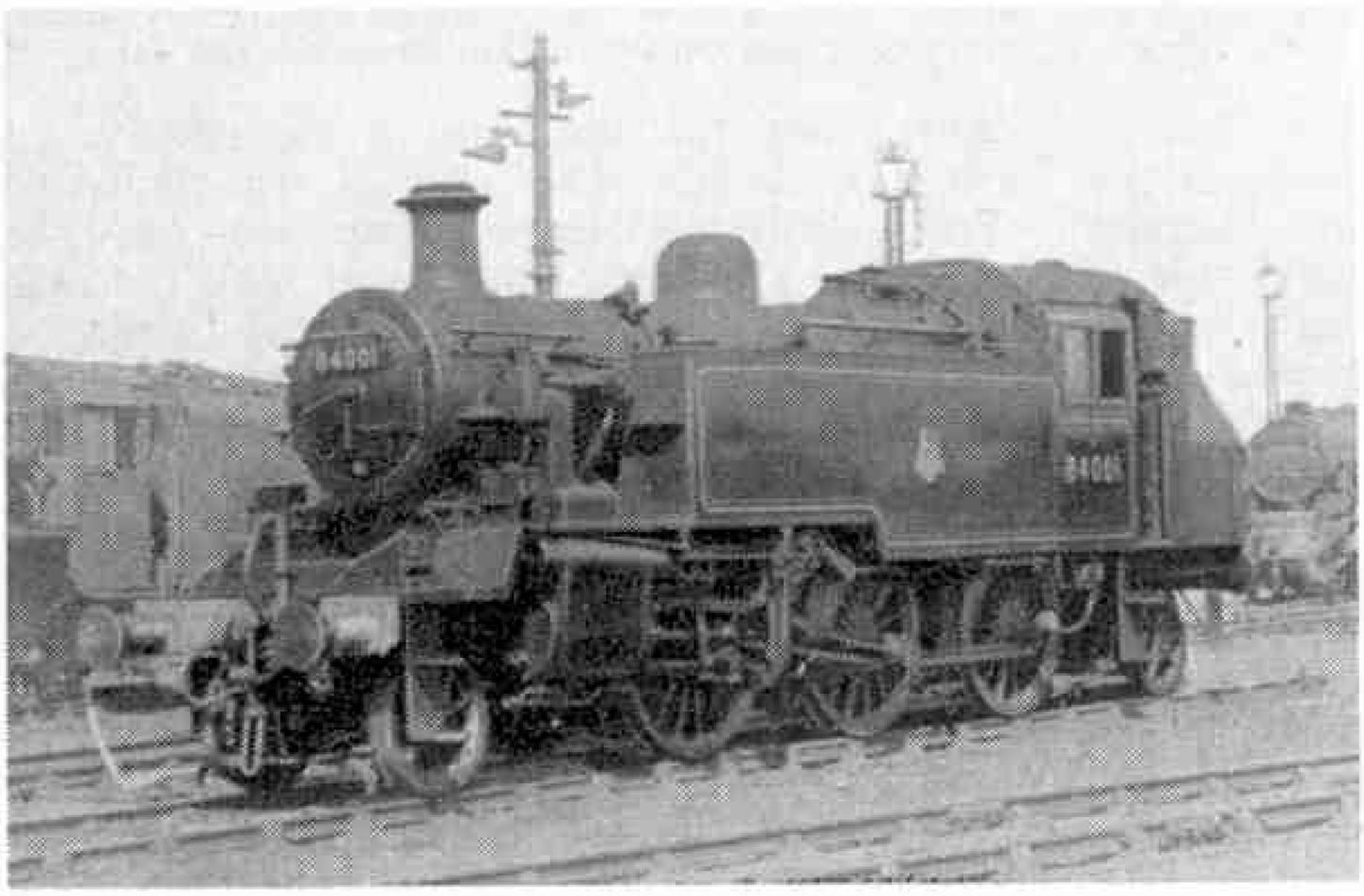
New locomotives have lately been placed in service as follows: Class 5 4–6–0 mixed traffic, built at Derby, Nos. 73030 (to Rugby Testing Station temporarily) and 73032, allocated to 68A, Carlisle (Kingmoor); 73031 to 66A, Glasgow (Polmadie); Class 4 4–6–0, built at Swindon, numbered 75030–4, stationed at 1E, Bletchley; Class 4 2–6–0s, 76016–9, from Horwich Works to 71A, Eastleigh Shed, S.R.; Class 4 2–6–4Ts, 80063, to 21A, Saltley; 80064–5, IC, Watford. Class 2 B.R. 2–6–2T, 84000–1 have been built at Crewe and allocated to the north shed there. 350 h.p. 0–6–0 diesel-electric shunters numbered 13023–4 sent to 14A, Kentish Town.

Britannia 4–6–2 No. 70043, not yet named, began service on Euston–Manchester runs towards the end of June, on loan like No. 70044 to Longsight Shed, 9A.

Among the withdrawals were former Great Western 4–6–0s; No. 111, *Viscount Churchill* (rebuilt in 1924 to Castle class from 4–6–2, *The Great Bear*); 4049, *Princess Maud;* ex-Midland 4–4–0s; 40353 and 40444; Great Eastern 4–6–0s class B12; 61528, 61532, 61543, 61501, recently working in the former Great North of Scotland area; a Scottish Midland type Compound 4–4–0 numbered 41184.

Eastern Region tank engines being scrapped include J52 saddle tank, 68774; old Great Eastern F4 2–4–2 tanks, 67177, 67186.

From the Southern ranks have gone D 4–4–0s, 31728, 31744; also representatives of another stalwart S.E. and C. class, the C 0–6–0s: 31260, 31291, 31486; as well as L.B.S.C.R. D3: 32372, 32376, 32380, 32385, E5: 32592.



A new B.R. Standard 2-6-2 tank No. 84001 at Crewe soon after construction. In addition to special apparatus for auto-train working, the engine boasts a speedometer. Photograph by E. Higgs.

Around The Eastern Region

Some excellent runs of which I have received logs from Messrs. D. S. M. Barrie, M.B.E. and Norman Harvey, were made by expresses on the former Great Northern, Great Central and Great Eastern Sections. Streamlined Pacific *Gannet* after a late start from Grantham with a 13-coach 460-ton load, covered the 69 miles to Selby (just within the N.E. Region) in 73 min., gaining 4 min.

B1 4–6–0, 61223, manned by a young Leicester crew working to Marylebone with 11 coaches, made up 4 min. on the fast 50-min. timing from Rugby to Aylesbury. It covered 45¼ miles start to stop in less than 46 min., averaging 78 m.p.h. for more than 10 miles past Brackley and Finmere. Fine uphill work was achieved by No. 61301 on the down *Fenman*, making the run to Cambridge in 2½ min. less than the accelerated 68 min. booked.

Healing Sick Animals

By R. Tenent

IF animals could speak, undoubtedly they would have many interesting stories to tell us. Probably none of these would be so interesting as their description of the People's Dispensary For Sick Animals, the organisation that exists to relieve their sufferings, whether due to injury, sickness, or even ignorance. For although our own pets have been lucky in finding the affection and care of a good home, unhappily all domesticated animals are not so fortunate.

The P.D.S.A. is the largest animal welfare society in the world and gives free treatment to nearly a million cases every year. It was founded in 1917 by the late Mrs. Maria Elizabeth Dickin, C.B.E., after losing a little dog from a long and painful illness. Mrs. Dickin tried to imagine what it must be like to be a suffering animal whose owner had no money to buy medicine. How dreadful for the animal, she thought, and also for the owner! So she decided to open a dispensary where sick animals could be treated free of charge.

First it was necessary to find suitable premises. Day after day she tramped many miles looking for a place, no matter how small. Often she was told of somewhere that seemed suitable, only to find that it had been taken, or had existed only in the imagination of the person who had directed her. Eventually, in the poorest quarter of London's East End, she was given permission to use a dark and dingy old cellar.

The next thing was to let people know that they could bring their sick animals. A notice-board was put up—"*Bring Your Sick Animals—Do Not Let Them Suffer—All Animals Treated—All Treatment Free.*" The first evening four patients were brought along. There was a poor cat suffering terribly from mange, a dog with cankered ears, and another that had jumped out of a window and broken its leg. Then came an old coster leading a limping donkey. Several times he had stopped and read the notice, shaken his head, and gone on. But something had drawn him back to the spot again, and, finally he decided to take the animal in.

"*Would you be the animal doctor, lady?*" he inquired of Mrs. Dickin. She explained that she did not treat the animals herself, but had someone competent who would be glad to help. The old man was still dubious, but said that if they could do something for his donkey he would be very grateful. The animal was treated, and for the next three days it was brought along at the same time, after which it was all right. The old man was so delighted that he never tired of telling people what the P.D.S.A. had done for him, and before long sick animals were brought in such numbers that their owners had to form a queue outside the dispensary door.

This owl was brought to the Northampton branch of the People's Dispensary for Sick Animals ill and exhausted after battling against heavy gales. Patient nursing and a few juicy titbits worked wonders. Photograph by courtesy of the "Northampton Chronicle and Echo."

Soon it was obvious that larger premises were needed. These were found in the shape of a shop with four rooms in Whitechapel. Here the P.D.S.A. was soon treating an average of 100 cases a day, many people bringing their pets from long distances. The dreadful nature of some of the cases made Mrs. Dickin realise more than ever

the tremendous amount of work waiting to be done, and by the early part of 1922 seven dispensaries were opened in London, and the P.D.S.A. was treating 70,000 cases a year.

One of the most interesting cases of those early days concerns Dixie, a retriever puppy some six months old, who introduced himself to the P.D.S.A. with one eye closed and much skin and hair missing, after having pulled a pan of boiling water over himself. Later he was run over twice, jumped through a skylight, gashed one of his paws on a broken bottle, fell overboard from a yacht, and had worms, while articles that at various times were removed from his throat included a safety-pin, a cork, and a powder-puff. As a final adventure he chewed up his licence and swallowed it!

In 1928 the P.D.S.A. built a fine sanatorium on the outskirts of East London. This is situated on thirty acres of land, and is one of the most up-to-date and largest animal hospitals in existence. There is a special X-ray department and an operating theatre, with trained nurses and an anæsthetist in attendance, just as in any hospital for humans.

Behind the hospital buildings are isolation stables, and spacious fields where horses and ponies can run free during convalescence. Many of these horses know nothing of fresh grass or green fields. One horse was led into a field with great difficulty. It would not go through the gate, and it was not until a basinful of oats was used to tempt it that it could be induced to go into the field. At first, it loitered near the gate and fence, but gradually it became more venturesome. Then it sampled the grass. What a neigh of delight it gave! But when the time came for it to be brought indoors it took five men to persuade it.

An in-patient at the P.D.S.A. sanatorium being coaxed to eat.

There is also a special hospital for small animals, treating chiefly cases of wounds, gastritis, mange, eczema, pneumonia, pleurisy, accidents, and so on. There was the case of Paddy, whose owner was a blind man. After a street accident it seemed that Paddy's leg was broken, and that he would no longer be able to lead his master about. The little dog was taken to the P.D.S.A. hospital, where X-ray photographs showed the trouble to be severe strain. A few days' rest and treatment in the ward soon put Paddy on his feet again and he was able to take up his invaluable work once more.

Then there was Satan, a three-weeks old fox that was found curled up at the bottom of a 6-ft. manhole. The little creature was taken

An unusual visitor brought to the P.D.S.A. sanatorium at Ilford, with its young owner. This is a coatimundi, a species of South American bear, which had escaped from its home and had been brought to the sanatorium from two miles away.

to the P.D.S.A. and soon became a great pet of the ward sisters. Too young to lap, it was fed with a baby's bottle.

Cats are often the sole friends of lonely people, and the P.D.S.A. treats about 600 cats every day of the year. It also treats about 3,500 cage birds annually, a recent case being that of a budgerigar with a broken leg. Matchsticks were used for splints and were kept in place by bandages. The operation, which was one of the most delicate pieces of work to be carried out in a P.D.S.A. dispensary, was highly successful and budgie was soon quite well again.

No story of the P.D.S.A. would be complete without mention of its caravan service, which calls in all weathers at hamlets and villages throughout the British countryside. Mrs. Dickin started this mobile dispensary service in 1923 with a horse caravan that she bought from a gipsy. Today the P.D.S.A. runs eighteen modern motor caravans in Great Britain, each costing an average of £1,500 a year to maintain. In 1952 P.D.S.A. caravans covered approximately 200,000 miles and the number of cases treated was 155,822.

Betty, a fox cub three months old, for which the P.D.S.A. had been asked to care and to find a home. It very quickly became a great pet.

Let us take a single day's itinerary of just one caravan. It may have to cover as many as seventy or eighty miles over all types and conditions of roads, and before it reaches its destination it will probably be stopped many times by people seeking advice and treatment for their pets. There was the case of a car owner who had accidentally run over a cat. While searching frantically for a vet, he suddenly spotted a P.D.S.A. caravan. The patient was treated and the motorist was most relieved and grateful to have found the P.D.S.A. on the scene at such a critical moment.

Later in the day, when stopping for a cup of tea in a very isolated part of the countryside, the caravan superintendent was not a bit surprised to see a lady approaching with her dog. This time the patient was treated for skin trouble. It is almost routine now, he says, that wherever the caravan stops, someone brings a patient for treatment within a minute or so.

Once the destination is reached there is always a long queue of people waiting with their pets. Perhaps the majority of cases treated are dogs and cats, although patients include a great number of birds, rabbits, tortoises, hamsters and so on. The superintendent of one caravan reports that his most unusual patient was an owl. It was found exhausted by its exertions during a gale, and was brought to the P.D.S.A. for treatment. After two days of careful nursing it was quite well again and was released in suitable surroundings.

Many are the examples of gratitude from owners of sick and injured animals, but probably one of the most interesting concerns a small boy who awaited the arrival of a P.D.S.A. caravan with his dog clutched tightly in his arms. In due course the caravan arrived, the dog was treated and the boy went away.

On going into the garage the next morning to fetch the caravan for the day's work, the staff was amazed to find it washed, and the brasswork polished until it shone. The garage proprietor was questioned, but had no idea who had done the cleaning up. The next morning, again the caravan was clean and polished. This time, however, the night-man at the garage reported that a young boy was responsible for the job. Inquiries were made and it was found that the lad was the same one who had brought his dog to the caravan for treatment.

In 1934 Mrs. Dickin formed the Busy Bees, or Junior Section of the P.D.S.A., which encourages boys and girls to give practical service in helping the work of treating sick animals. The Section has a paper of its own, *The Busy Bees News*.

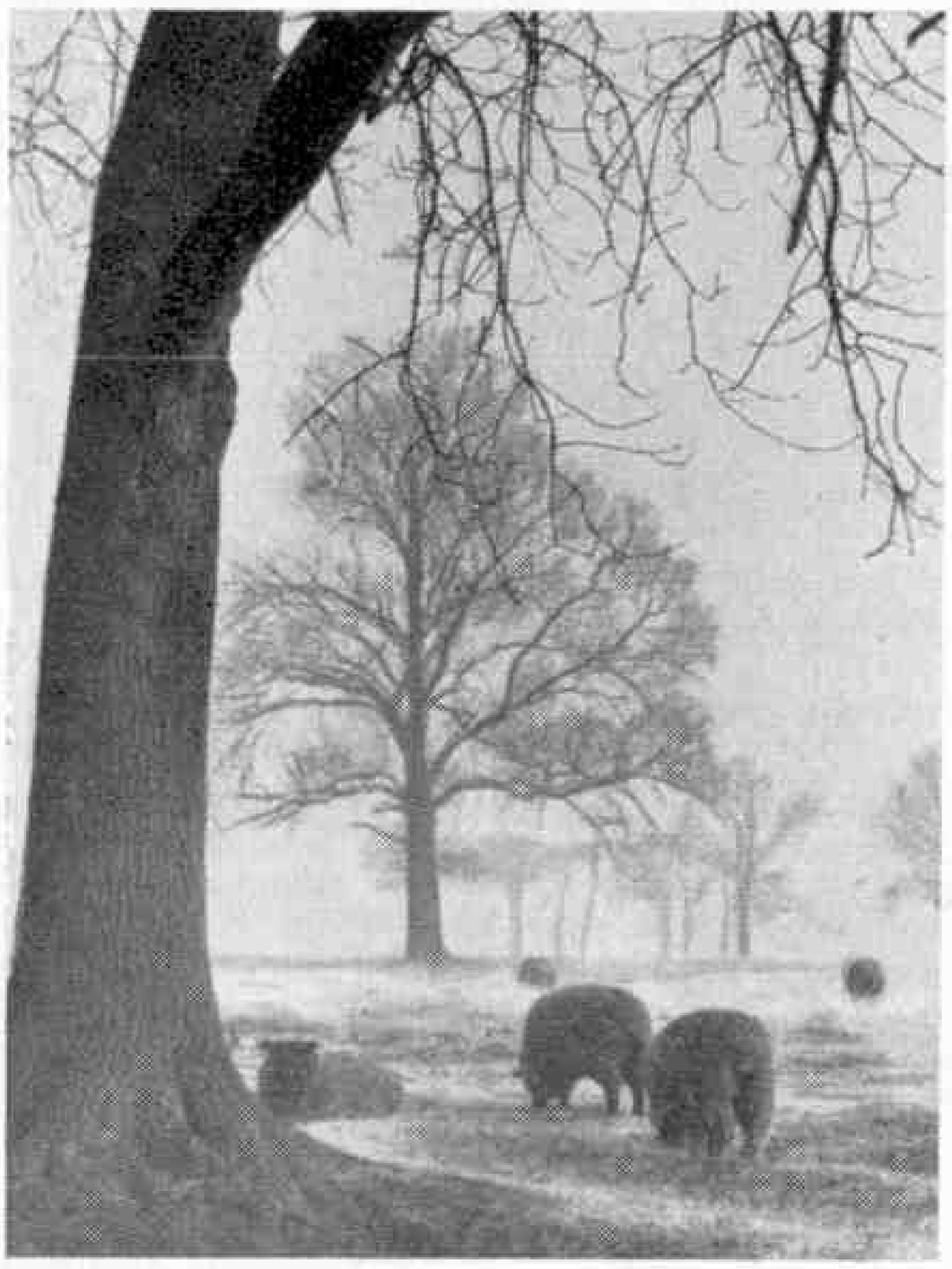
Photography

Autumn Mists

By E. E. Steele

THE month of November is regarded as the worst month of the year for mist, but more often than not this deteriorates into cold, clinging fog, reducing visibility to a few yards and proving useless for photography, or any outdoor purpose. On the other hand October usually serves up some of those ideal misty mornings, when the Sun gradually breaks through to provide a delightfully sunny day. It is this kind of misty morning that can present some new and thrilling aspects for landscape photography.

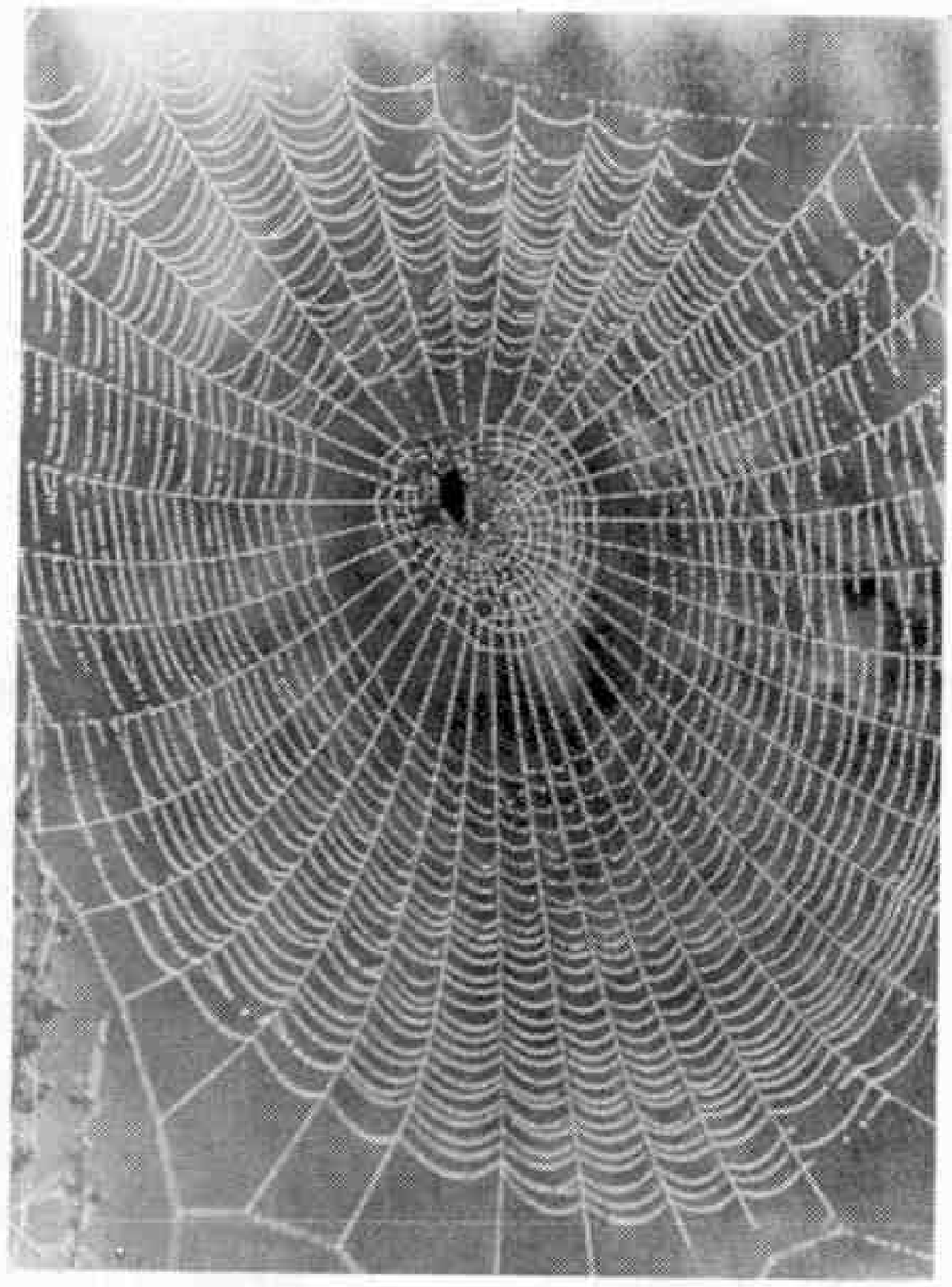
The best time to be out with your camera is as the Sun gradually disperses the mist, and gives a luminous golden light against which the dark trunks of the trees



A misty Autumn morning.

stand out in relief. All the distant background will be softened, if not obliterated, so that it is possible to arrange a group of trees in the foreground, with a soft pleasing background of mist in which all irritating details are subdued. This is the kind of atmosphere much beloved by artists, who strive for mass effects and are not interested in all the fiddling details which we usually get in an outdoor photograph for the simple reason that we can't very well avoid them when working in open sunshine; but the softening mist is a great help in subduing unwanted details.

Many subjects of this kind owe their charm to the fact that they were deliberately taken against the light, that is, the camera was pointed towards the Sun just when this was about to break through the mist. By this method the subject is surrounded by a halo of light, and outlined against a most luminous background of mist in which all detail is subdued. Such photographs have a charm which cannot be captured by any other lighting effect, and yet half the success is gained by



Web of garden spider photographed on a misty morning. The illustrations to this article are from photographs by the author.

choosing the right moment on a misty morning.

Animals can be photographed in the mist. Sheep are particularly well suited for this kind of picture, and are often to be seen in open park-land which provides plenty of subjects for a misty morning. A street in a town, however, can give some charming effects when photographed on such a morning, while in the garden spider webs glistening with pearly dewdrops are ideal subjects for one's camera, especially if they can be taken against a dark background.

Chrome films are excellent for this work, in which there is little colour. Use a lens hood to shade the lens, and do not let moisture condense on the lens.

Sunshine on the birches after fog and frost.

Air News

By John W. R. Taylor

First Delta Trainer

Another milestone in delta-wing development was reached on 1st July last with the first flight of the Avro 707C from Waddington Aerodrome, near Lincoln. It is the world's first dual control delta, and will be used to teach the technique of handling these "paper dart" machines to pilots who will fly the R.A.F.'s new Vulcan delta bombers and Javelin delta all-weather fighters.

As can be seen from the illustration alongside this paragraph, the Avro 707C is almost identical with the well-known Avro 707A single-seat research aircraft, except for its larger cockpit, which houses instructor and pupil side by side. Like the earlier version, it has a Rolls-Royce Derwent turbojet. Pilots are unlikely to find much difficulty in flying it, as Avro have already logged many hundreds of flight hours with the 707A, 707B and Vulcan four-jet delta bomber, without incident, and all pilots report that their handling qualities are superb.

Polar Airstrip

The United States Navy, helped by the U.S.A.F., have built a compressed snow airstrip not far from the North Pole, from which normal wheeled aircraft have been flown. The Naval construction units and their equipment were flown in by ski-equipped aircraft. The runway is about one mile long and 150 ft. wide.

Lockheed's Ice Tunnel

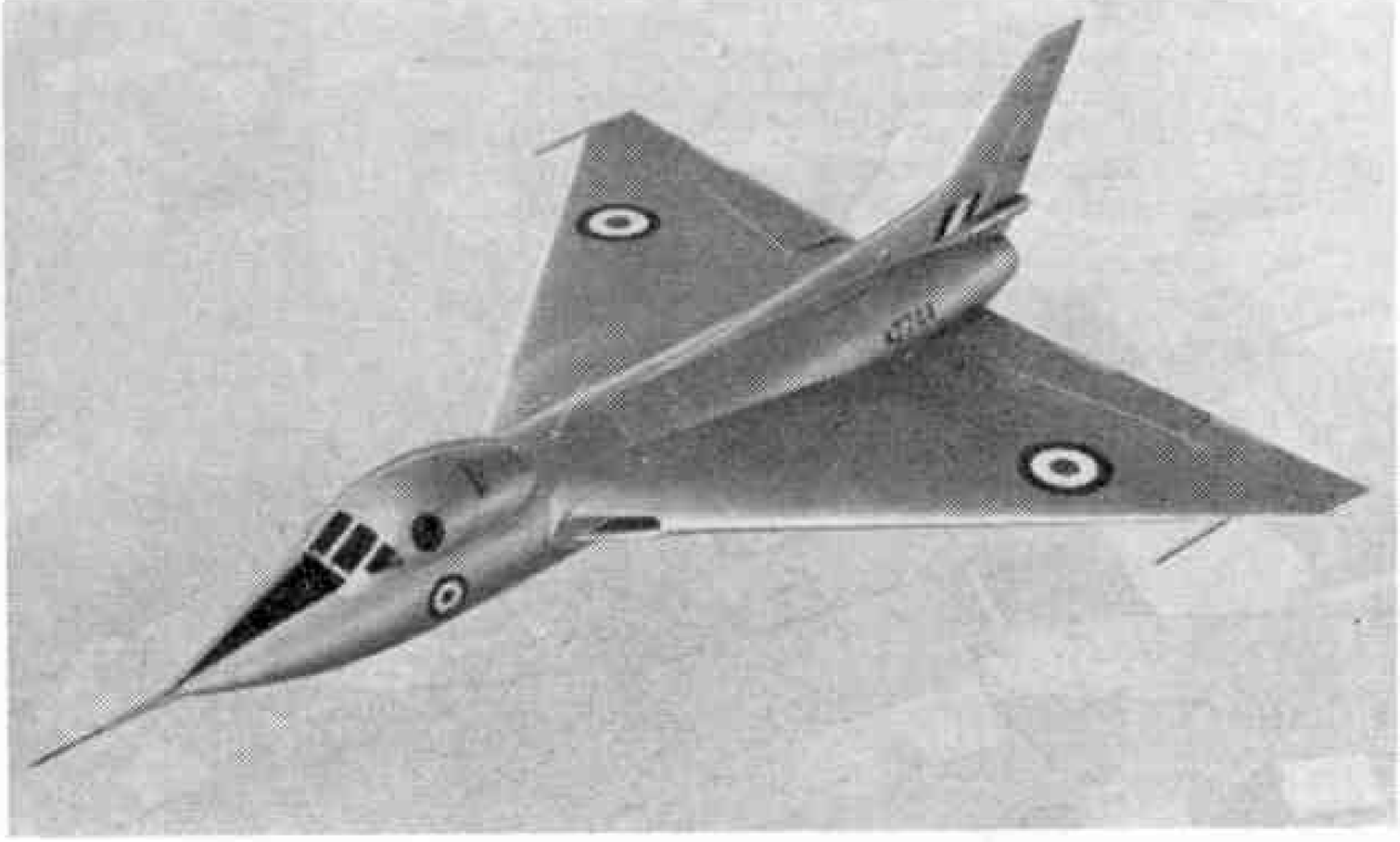
A £50,000 wind tunnel has been built by the Lockheed Aircraft Corp., U.S.A., to help scientists find better methods of eliminating ice from aeroplanes. Man-made ice storms are created in it by a refrigeration system equivalent to 776 home refrigerators. Misty spray and mechanically created winds of hurricane force are added to simulate flying conditions in ice-forming weather.

The tunnel's 3 ft. square working section will accommodate sections of wing, control surfaces, de-icer boots, carburettor air intakes, radio aerials and a variety of other equipment. Most tests are made at a simulated speed of 200 m.p.h. at zero temperature, but higher speeds can be duplicated in the upper freezing range and slower speeds at as low as – 50 deg.

Movable Tails for Latest Jets

New British and American jet fighters are being fitted with what is called an "all flying tail"—a moving tailplane controlled by the pilot's stick. The idea of a moving tail is not new, many early aircraft had them, including the Morane Parasol flown by reconnaissance pilots in France in 1914. But most aircraft since then have had fixed tailplanes, with only the elevators at the rear hinged to move up and down.

More recently, some high speed aircraft were designed with variable incidence tailplanes which could be adjusted to alter the trim at different speeds and loadings. Now comes the all flying tail which is usually geared so that the tailplane moves through two or three degrees for every 10 degrees deflection of the elevators. This gives the pilot much more positive control of his aircraft at near-sonic speeds. Electrical boosters, able to exert a force of 10,000 lb., relieve him of the tremendous effort required to move the controls at such speeds.



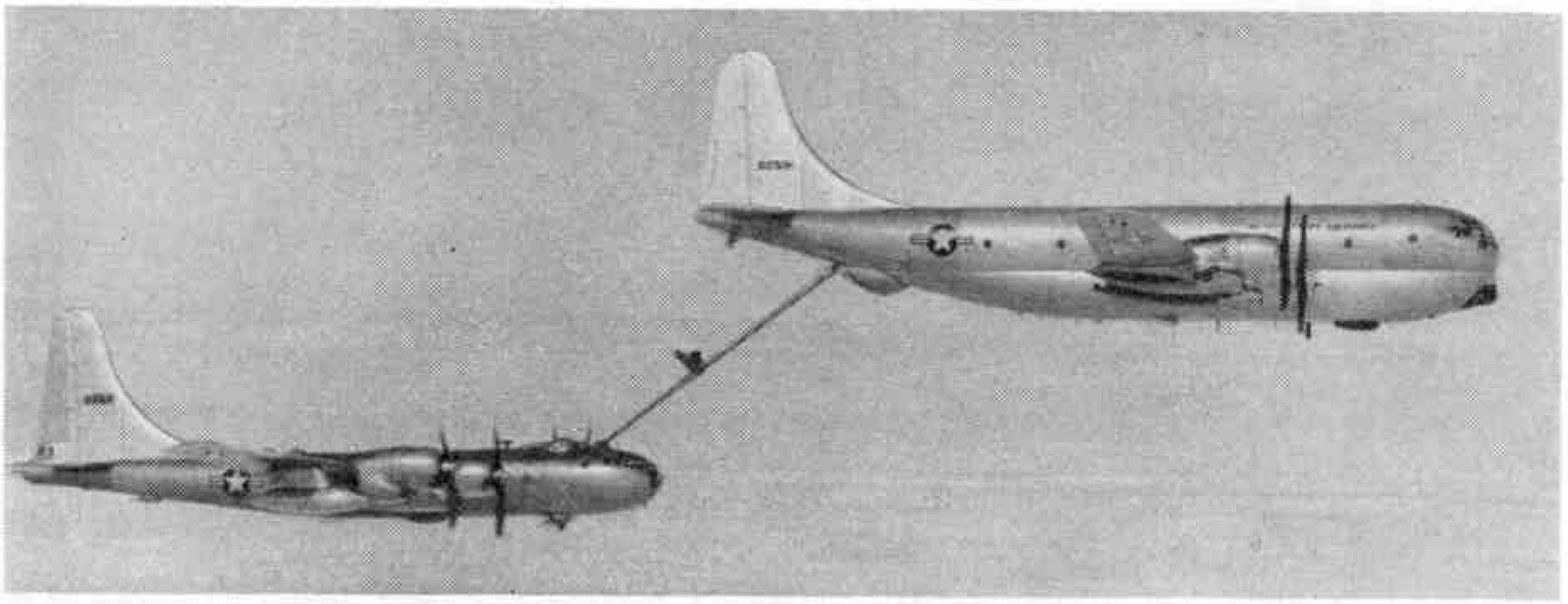
Avro 707C, the world's first dual control delta aircraft. Photograph by courtesy of A. V. Roe and Co. Ltd.

Indian Designed Trainers

The neat little HT–2 two-seat trainers, shown in the bottom illustration on this page are the first aircraft designed and built in India. They are in production for the Indian Air Force at the Hindustan Aircraft Factory, Bangalore, and should be coming off the assembly line at a rate of six a month by the end of the year.

In much the same class as the Chipmunk, the HT–2 is a fully-aerobatic all-metal machine, powered by a 155 h.p. Blackburn Cirrus Major III engine. Wing span is 35 ft. 2 in., it weighs 2,240 lb. and has a range of 350 miles at a cruising speed of 115 m.p.h.

Hindustan HT–2 two-seat trainers, the first aircraft designed and built in India.



A pair of Boeing team-mates "hook up" high above the clouds as a KC-97 Stratofreighter provides a B-50 Superfortress with a new load of fuel. Photograph by courtesy of the Boeing Airplane Company, U.S.A.

More R.A.F. Polar Flights

For the third year in succession the Royal Air Force has undertaken a series of flights within the Arctic Circle, to assist the British North Greenland Expedition. This year's flights, which involved carrying large quantities of stores for the Expedition, were made by five Sunderland flying boats of Coastal Command and two Hastings of Transport Command.

Plastic Wing Flown

A North American AT–6C Harvard has been flying for several months at Wright Air Development Centre, Dayton, Ohio, fitted with a glass-plastic wing instead of its normal metal wing. A great deal of research will be necessary before such wings are suitable for supersonic aircraft; but scientists are pleased with initial flight test results. Big advantage of plastic wings is that they can be moulded quickly and cheaply by relatively unskilled labour.

Versatile Stratofreighter

The 66-ton Boeing KC–97F Stratofreighter is the tenth model in the C–97 series, and is fitted with new, improved 3,500 h.p. Pratt and Whitney R–4360–59 Wasp Major engines. Basically a freight transport, it can be converted quickly to the Flying Boom-equipped aerial tanker shown in the top picture on this page, through use of unique "packaging" of accessory equipment.

The Boeing-designed Boom, its control and operator's cabin are assembled as a single unit, attached beneath the aircraft in the space normally occupied by the rear cargo doors. With flight refuelling equipment removed, the KC–97 can carry up to 34 tons of payload, 134 fully-equipped troops or 79 stretcher patients, together with medical attendants and supplies.

Anti-Smuggling Austers

Three Auster Autocars have been bought by the Iraqi Customs authorities to help in their campaign to prevent smuggling. Each plane is fitted with stowage points for carrying a .303 in. rifle and sten guns, so that when border smuggling is recognised from the air the Auster can be brought down and an armed arrest made by the pilot and observer, who literally drop out of the blue. The Autocar's short landing and take-off runs make it ideal for such work.

Atomic Age Air Liners

Air liner receiving an extra special polish in the lower photograph on this page is *Proton*, one of K.L.M.'s new fleet of 13 Lockheed Super Constellations, all of which have been given nuclear names such as *Atom* and *Neutron*. The aircraft's unusual ground crew consists of young ladies from Los Angeles' Dutch-American colony, who decided that as the air liner was due to arrive in Holland on Prince Bernhard's birthday it ought to look extra smart.

Powered by four 3,250 h.p. Wright Turbo-Cyclone engines, the "Super Connie" is America's fastest air liner, with a cruising speed of 335 m.p.h. It carries up to 92 passengers in five separate cabins in its 113½ ft. long fuselage.

Proton, one of K.L.M.'s new fleet of Lockheed Super Constellations, receiving attention from an unusual ground crew, as described on this page.

New B.O.A.C. Service

B.O.A.C. plan to introduce an important new service this month between Britain and the West Indies. Designed to meet the requirements of the Eastern Caribbean area for a direct service to and from the United Kingdom, it will link London and Trinidad, via Prestwick, Gander, Bermuda and Barbados, in 24¾ hours. Constellations, each seating 65 passengers, will be used on the new service, which will connect at Bermuda with regular airline services to New York, for the benefit of U.S. tourists.

Australian Train Names

By A. Kay

IN different parts of Australia where railways serve the people, the trains are familiarly known by various local and national nom-de-plumes. Some of these descriptions have even gained official distinction.

In N.S.W. *The Caves Express*, plying between Sydney and Mount Victoria, 78 miles distance, in the heart of the Blue Mountains, was given this name because Mount Victoria is the alighting point for visitors to the celebrated limestone caves at Jenolan.

The Fish is the best-known train in the State. "The businessman's train," it connects Mount Victoria and Sydney daily. It came by its name from the fact that in the 1860s one of the drivers of the train was called John Heron, a name that later was corrupted to "Herring," and eventually to the "Big Fish." Heron was described as "a big blustering man." It is commonly but wrongly believed that *The Fish* received this name because years ago it possessed a guard and fireman named respectively Pike and Salmon! The train that follows *The Fish* is referred to somewhat derisively as *The Chips*, merely picking up the "small fry."

Another N.S.W. train, *The Daylight Express*, travels from Sydney to Nowra, terminus of the Illawarra-South Coast Railway. You could do the journey both ways—95 miles each direction—within the day. The train is air-conditioned. *The North Coast Daylight Express* differs from its South Coast counterpart in that it is a four-car diesel train. It connects Grafton, a popular North Coast locality, with Sydney—434 miles in all.

The South Coast Daylight Express of the New South Wales Railways. Photograph by courtesy of the Department of Railways, N.S.W.

The streamlined and air-conditioned *Silver City Comet* runs between Broken Hill, in western New South Wales, and Parkes, a distance of 422 miles. The train is often called *The Tin Hare*.

The Red Flyer is an alternative title for the express that "flies" between Sydney and Newcastle, one of this State's industrial cities. It maintains a fast timetable and is painted a bright red colour, hence its name.

A small two-car steam train running from Richmond, 44 miles west of Sydney, a pastoral district, to Kurrajong, a citrus centre, some eight miles, was, until recently discontinued, known locally as *The Pansy*. A two-carriage motor train from Sutherland to Waterfall, on the N.S.W. Illawarra Line, is often described as *The Squirt*.

During the Commonwealth Jubilee Celebrations in 1951, two special commemorative trains functioned in Australia. One was in Victoria, the other in Queensland. The first of these was *The Centenary—Jubilee Train*, of Victoria, which toured that State as a historical exhibition of Art and industrial life; the other was the *Jubilee Art Train* of Queensland, which visited country centres so that residents "could see reflected in the splendid exhibits the

industrial, agricultural and cultural growth of their nation."

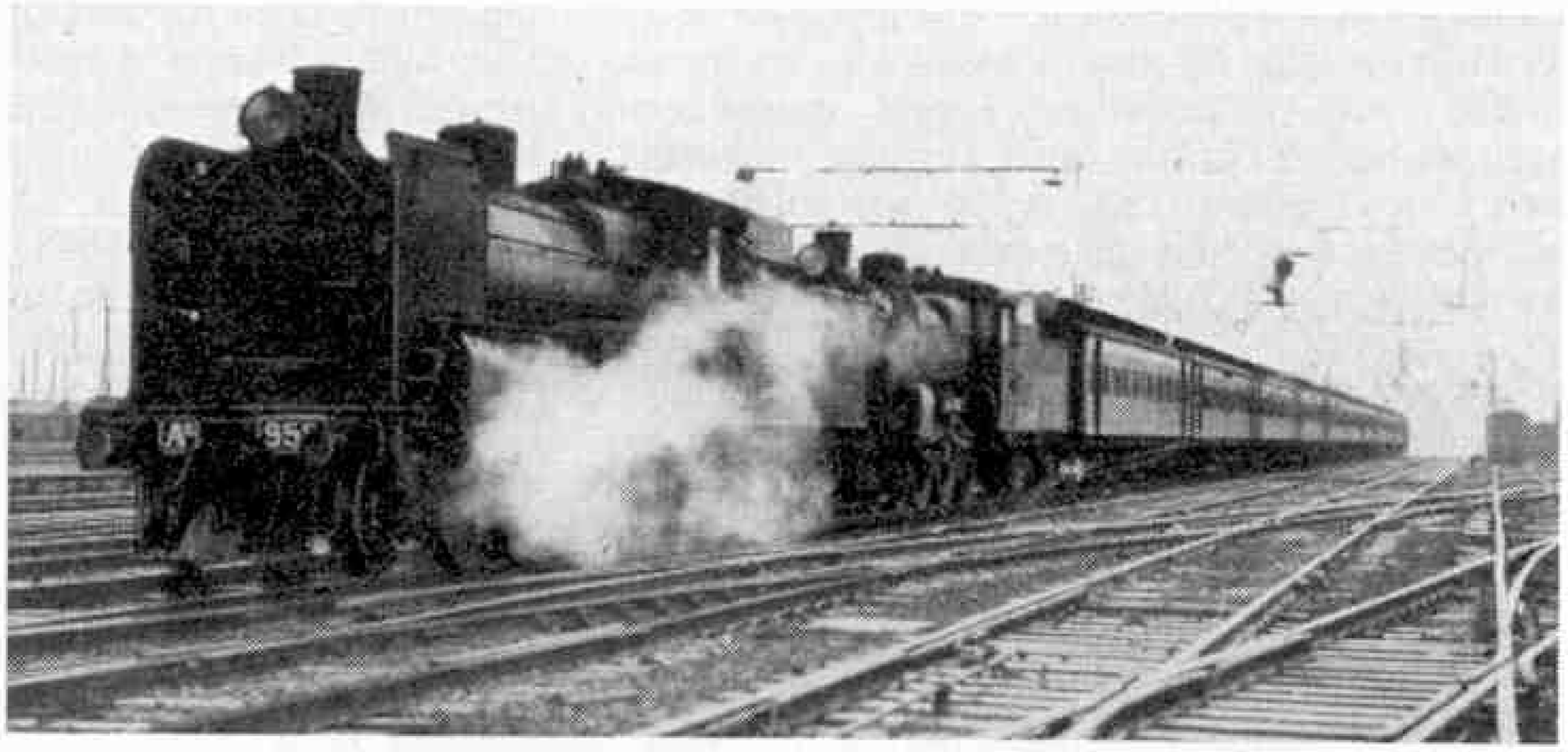
The most celebrated Victorian train *The Spirit of Progress*, runs from Melbourne, the capital, to Albury, on the N.S.W. border, and when introduced it was the last word in train construction and comfort. A favourite with the Interstate tourists, it is popularly known as *The Spirit*.

The Overland runs from Melbourne to Adelaide, in South Australia, and from an original steam-drawn train it has lately been developed into an efficient diesel-electric service. *The Boat Train* of Victoria is electric, serving Flinders Street and Port Melbourne. Another *Boat Train* in South Australia connects Adelaide with Port Adelaide.

The Fish Pilot, *The Peanut*, *The Darkie* and *The Milkie* are other names associated with trains operated by the Victorian Railways. *The Rabbity* is yet another; it ran from Seymour to Benalla. *The Switchback* ran from Essondon and Broadmeadow, not far from Melbourne.

Then in 1924 *The Better Farming Train* made a tour of agricultural districts of Victoria. The train was painted a distinguishing yellow colour.

One of Queensland's favourite trains is *The Sunshine Express* running the course from Brisbane to Cairns, in the northern part of that State. Air-conditioned, it is very modern and travels a distance of 1,043 miles.

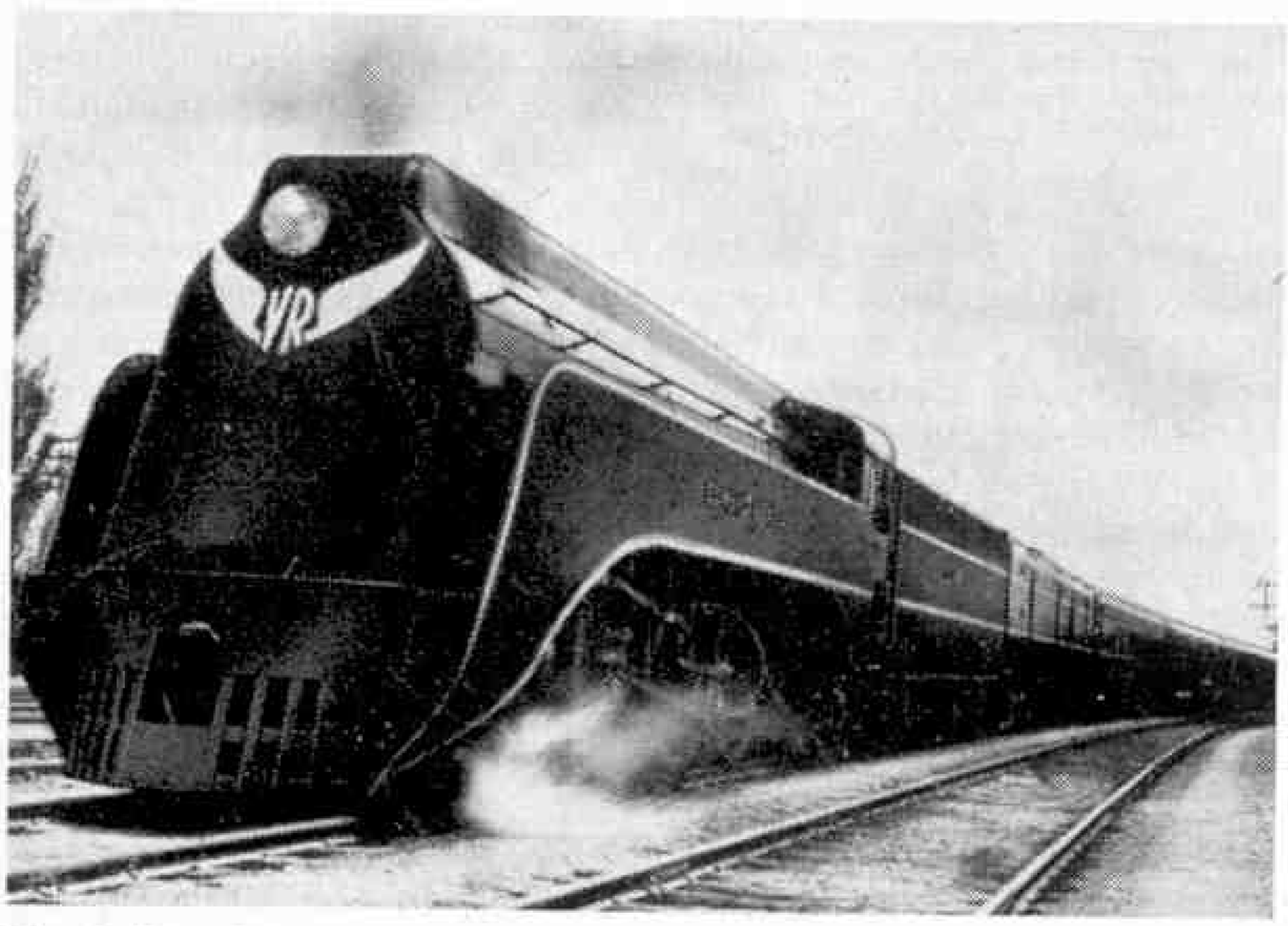


The Overland runs from Melbourne to Adelaide.

The Trans is the familiar short name of the East-West Trans-Australia Railway operated by the Commonwealth. It links Port Augusta in South Australia, with Kalgoorlie, West Australia, 1,051 miles away. *The Tea and Sugar Train* also operates along the Trans-Australia Line, and is a mobile store for the communities scattered along the route.

One of the most intimate of all Aussie trains must surely be *The Ghan*, which sets out from Alice Springs, in Central Australia, for Adelaide, South Australia. The name came from the original "camel trains" operated in years gone by by Afghans. *The Chaser* is a train that takes food and other supplies to Alice Springs. *The Maree Mixed* serves Port Augusta and Maree.

The most northerly railway in Western Australia is operated from Port Headland to Marble Bar, 114 miles in all, but in bad weather, *the Kalamazoo*, a motor trolley capable of carrying four people, mail bags and provisions, takes over the infrequent service.

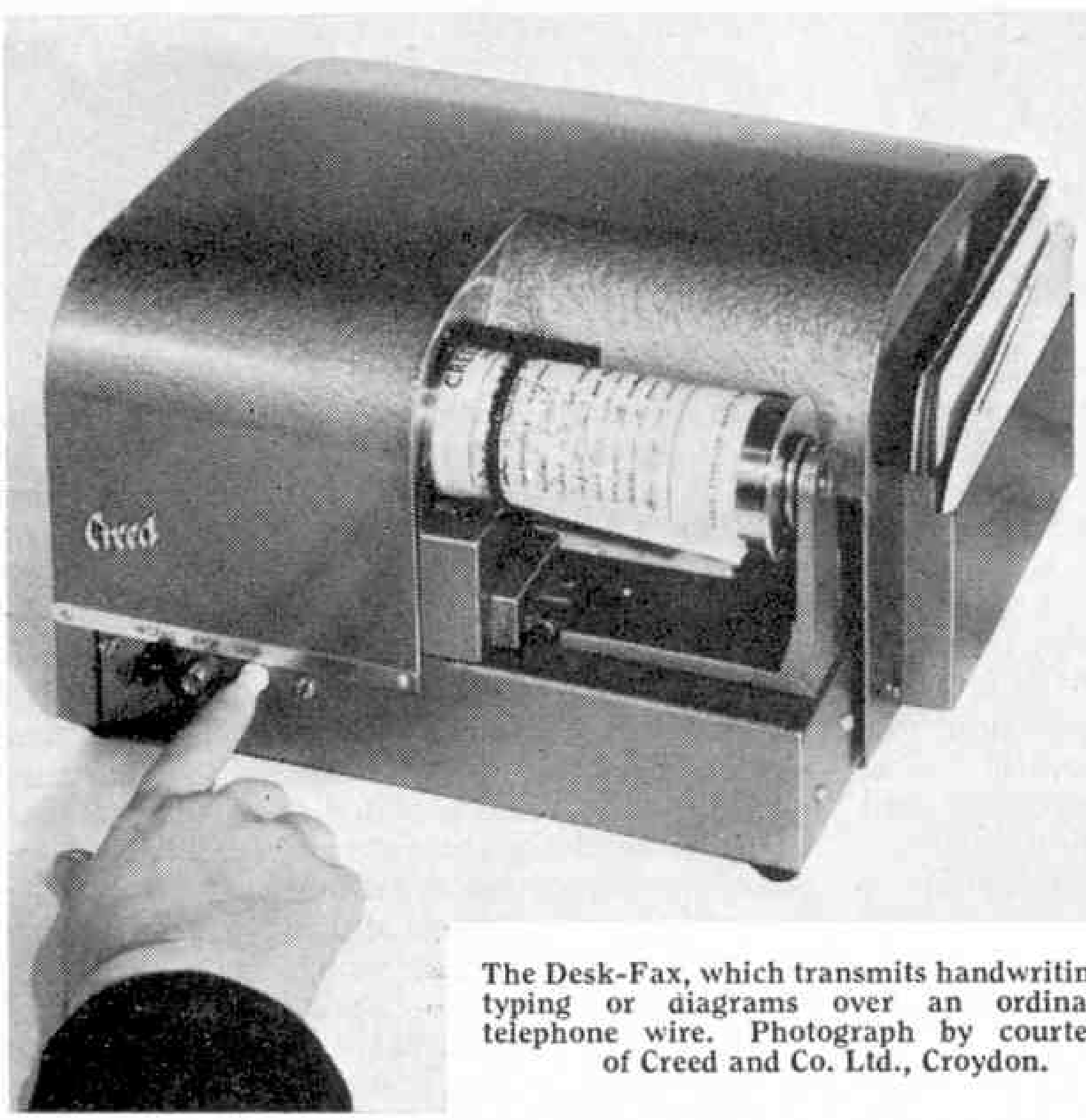


The Spirit of Progress, popularly known as The Spirit, runs between Melbourne, the Victorian capital, and Albury, on the New South Wales border.

Writing by Telephone Wire

By Trevor Holloway

A NEW electronic instrument now being made by the Croydon firm of Creed and Co. Ltd. opens up an exciting chapter in the history of telegraphic communication. With the aid of the Desk-Fax, as it is called, handwritten or typed messages, signatures, diagrams and similar material can be transmitted over an ordinary telephone wire and an exact copy delivered at the receiving end.



The Desk-Fax, which transmits handwriting, typing or diagrams over an ordinary telephone wire. Photograph by courtesy of Creed and Co. Ltd., Croydon.

The youngest office boy can use the Desk-Fax, for operation is simplicity itself. It is only necessary to slip the message form around a cylinder and press a button and the message automatically delivers itself silently, swiftly and with unfailing accuracy. Messages may be transmitted to points within an office, or to branch offices or works up to a maximum distance of approximately fifteen miles. The instrument weighs only 30 lb. and takes up less room than a typewriter.

How does it work? The message is written, typed or drawn as the case may be, on ordinary white or buff paper measuring $6\frac{1}{2}$ in. by $4\frac{1}{2}$ in., sufficient to accommodate about 150 typewritten words. The message form is wrapped round the drum and the "Send" button operated. This causes the drum to rotate at the transmitting machine and a buzzer to sound at the receiving machine. The distant operator, on hearing the buzz, wraps a receive message form round his drum and presses the "Receive" button. The two drums are automatically put into step with each other and the message is transmitted.

The method of scanning is as follows. The light from an exciter lamp is focussed, by means of a lens, upon the surface of the message form to make a small, bright spot of light. The drum, round which the message is wrapped, is arranged to rotate about its shaft and move in the direction of its length at constant speeds. These two motions combine to make the spot of light scan the message form in a close spiral, their speeds being so chosen that the pitch of the spiral is 125 lines to the inch on standard pattern machines. The time to scan the whole message area is about 2 minutes, 20 seconds.

The light reflected from the message form is focussed by means of another lens upon a small aperture, which permits some of it to pass through to the cathode of a photo-electric cell. The amount of reflected light varies with the lightness or darkness of the surface, and these variations produce corresponding changes in the current that flows in the photo-cell.

The reflected light beam is then interrupted 2,100 times per second by means of a slotted chopper disc, interposed between the aperture and the photo-cell, which is rotated at high speed by a motor. The output from the photo-cell is fed into a transmitting amplifier and transmitted to the distant end.

Actually, the method of scanning as described would result in the recording of an inverted message at the receiving end, but means have been incorporated in the sender to correct the sense of the message.

Among the Model-Builders

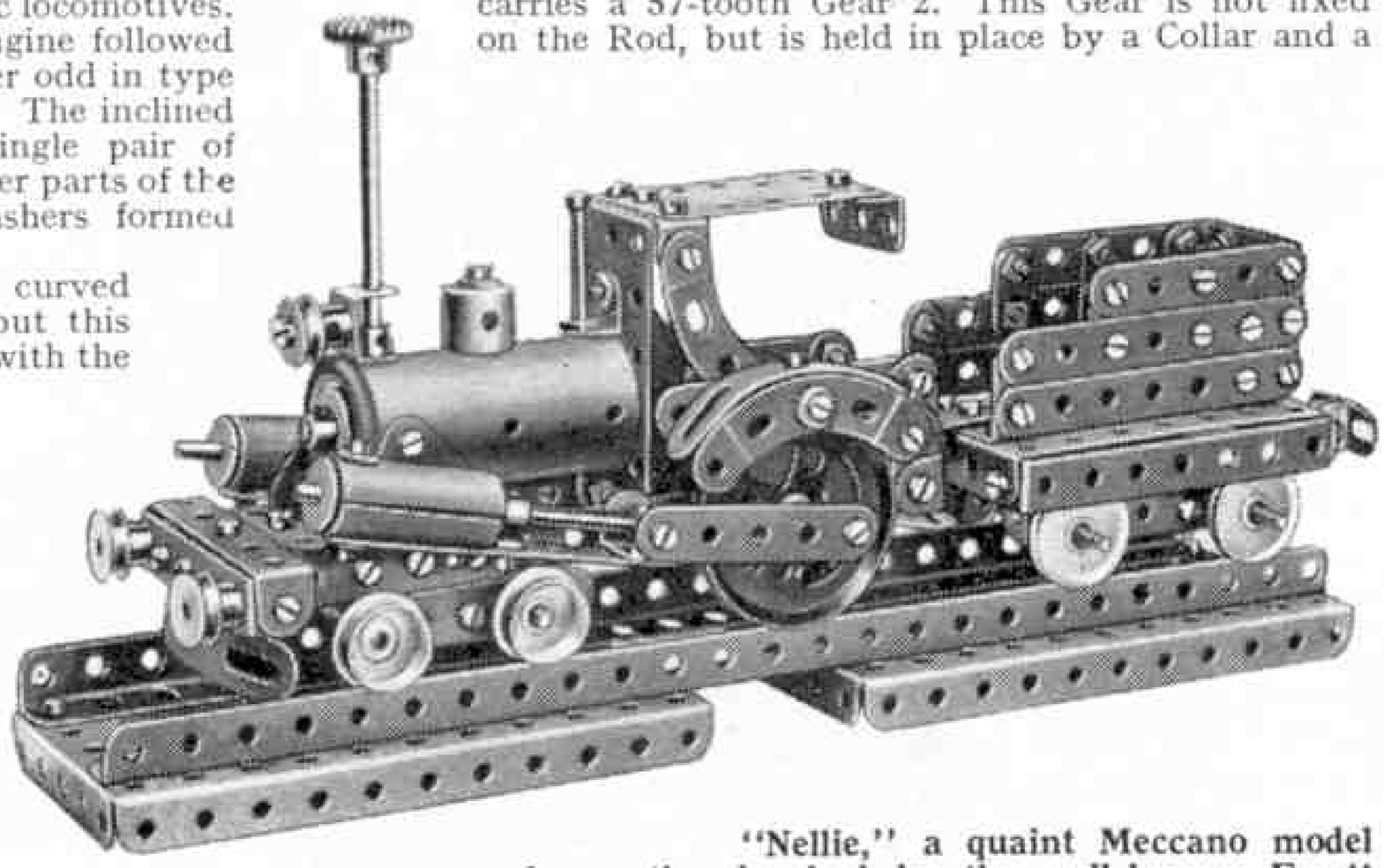
By "Spanner"

A QUAINT MECCANO LOCOMOTIVE

The upper illustration on this page is a picture of "*Nellie*," an ingeniously contrived model locomotive built in Meccano by Mr. C. Featherby, Chatham, who was inspired by the well-known Emett productions. Mr. Featherby says that the beginning of his quaint little engine was suggested when he happened to mount a Meccano Contrate Wheel at the end of a Rod. It struck him that the effect produced by these Parts was not unlike the slender chimney, with marvellously decorated top, that is a characteristic of Mr. Emett's comic locomotives. Construction of the rest of the engine followed naturally, and although it is rather odd in type the model is soundly constructed. The inclined cylinders are connected to a single pair of driving wheels in the rear, the upper parts of the latter being covered in by splashers formed of Curved Strips.

The cab, with its sweepingly curved sides, is a rather jaunty affair, but this and the tender are well in keeping with the general style of the engine.

A neat combination of parts consisting of a ½" Pulley attached to a large Fork Piece represents the headlamp at the base of the chimney, and this assembly also serves the purpose of a headlamp bracket and provides an adequate base for the chimney.



"Nellie," a quaint Meccano model locomotive inspired by the well-known Emett production. It is the work of C. Featherby, Chatham.

A COMPACT CLUTCH MECHANISM

One of the most important mechanisms in a detailed model of a car or lorry is a friction clutch to disengage the drive between the power unit and the gear-box. Most Meccano chassis are fairly large and heavy models, and quite considerable pressure must be applied to the clutch plates in order to prevent slip when the drive is engaged. The necessary pressure can be obtained quite easily by using one or more Compression Springs to force the plates together, and of course clutches of many different kinds have been described in these pages in the past.

One of the difficulties met with in clutch construction with standard Meccano parts is that the pressure applied to the clutch release levers when the drive is disengaged causes a certain amount of friction, so that the clutch tends to drag. This position is aggravated in many designs, as the thrust of the levers is carried through the driving member, and tends to force it against the bearings of the driving shaft. It is very important to reduce this end thrust to a minimum, particularly if a Clockwork Motor forms the power unit of the model, and the clutch shown in Fig. 1 has been designed with this point in mind. It was built by Mr. E. W. Henry, Sheffield, who tells me th t he found it very satisfactory.

The Rod 1 is the clutch output shaft, and it carries a 57-tooth Gear 2. This Gear is not fixed on the Rod, but is held in place by a Collar and a 1" Pulley 3 fitted with a Rubber Ring. The Pulley also is loose on Rod 1, and it is gripped in a Socket Coupling 4. A ½" Bolt 5 is screwed into a Coupling fixed on the Rod, and the shank of the Bolt engages the slot of the Socket Coupling. A Compression Spring is fitted over Rod 1 between the Socket Coupling and the Coupling, so that the Rubber Ring on the 1" Pulley is forced against the face of Gear 2. The Socket Coupling and the Pulley can be withdrawn from the Gear against the pressure of the Compression Spring, but the Bolt 5 sliding in the slot of the Socket Coupling ensures that they rotate with the Rod.

The Gear 2 forms the driving member of the clutch, and when the mechanism is fitted in a chassis, the Gear is meshed with a ½" Pinion driven by the power unit. The clutch release levers are arranged so that they ride in the groove of the Socket Coupling.

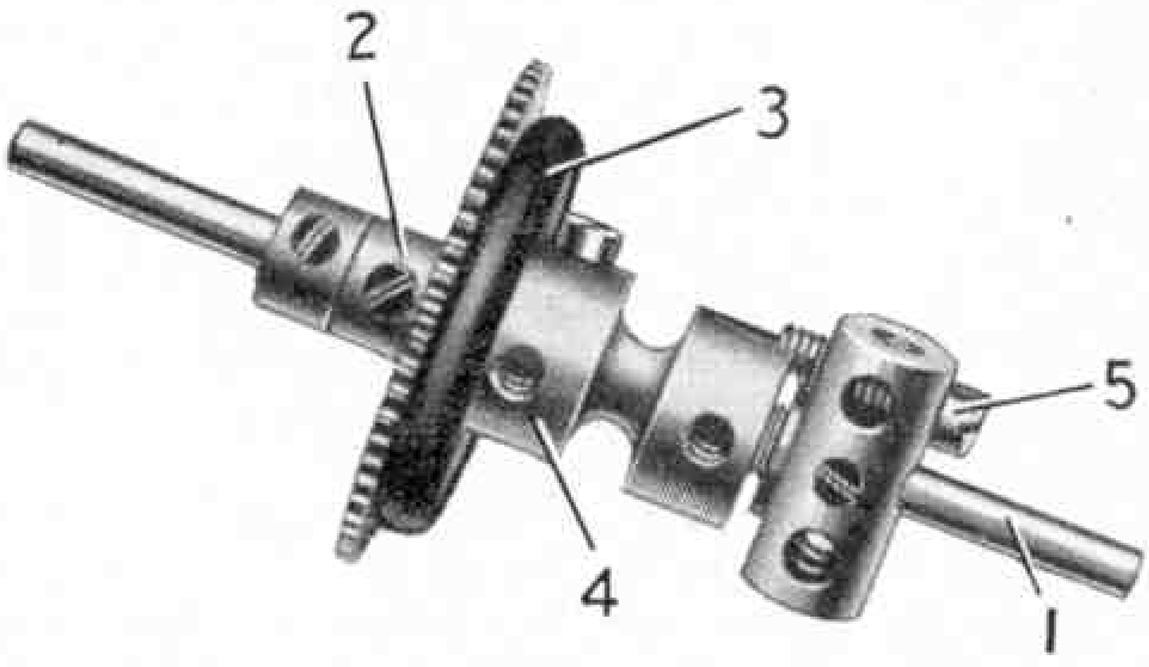


Fig. 1. This compact clutch mechanism is just the thing for disengaging the drive between the power unit and the gear-box of a model chassis. It was built by Mr. E. W. Henry, Sheffield, and details of it are given on this page.

A PROMISING YOUNG MODEL-BUILDER

I received details recently of an interesting mobile crane built by Michael J. Snell, who lives in Marandellas, Southern Rhodesia. At the time he built the model Michael was not quite ten years old, but he is a keen Meccano modeller and the mobile crane shows that he is already quite skilful in the use of the various parts. The crane is operated by an E20R Electric Motor, through a neat gear-box that transmits the drive to the luffing, hoisting and travelling movements.

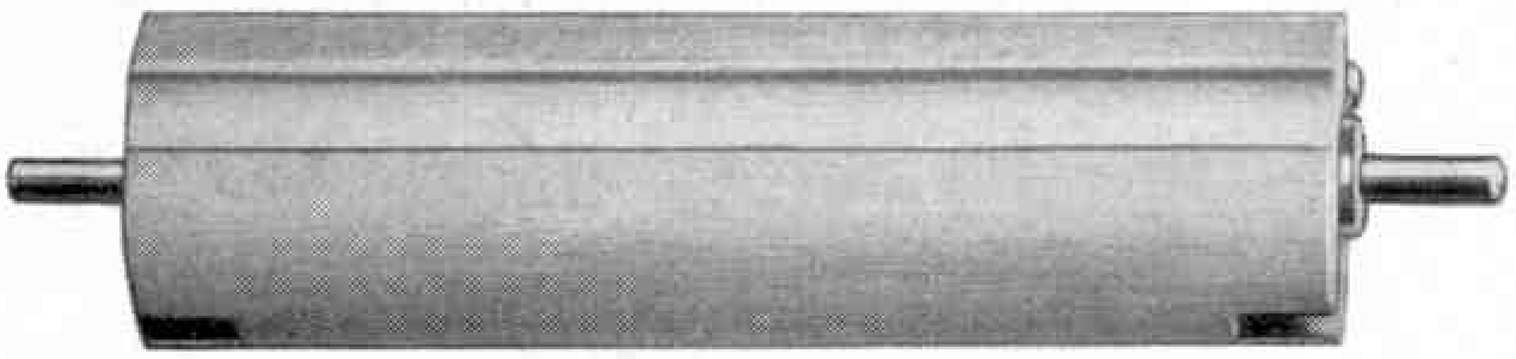
Michael sent a neatly-written and well-detailed description of the model, together with several sketches showing its construction, and the preparation of these, together with the work done in the model itself, reflect great credit on his abilities.

Good News

By "Spanner"

THIS month I have news that I am sure will be of interest to you all. It has now been found possible to re-introduce in the Meccano range several parts which, although very popular before the war, have not been available since 1940. You will now be able to obtain these parts from your usual Meccano Dealer. The names of the parts and their catalogue numbers are as follows: Heald for Loom (Part No. 101); Wood Roller (Part No. 106); Loaded Sack (Part No. 122); Ship's Funnel (Part No. 138); Triple Pulley Block (Part No. 153).

Each of the re-introduced parts is illustrated on these pages, and while their principal uses will be obvious to older readers, I think that younger model-builders may be glad of a few hints as to their purpose and uses in model-building.



The Wood Roller (Part No. 106), which has now been re-introduced to the Meccano System. The Heald for Looms (Part No. 101) is shown at the head of this page.

Heald for Loom (Part No. 101).

The Heald is made of thin, tough and springy steel wire, and although it is designed primarily for use in the construction of model weaving looms, it has several other uses that cannot be fulfilled by any other part in the System. It is 5½" long and has an "eye" at each end and one in the centre. The end "eyes" are for use in attaching the Heald to the heald frames in a loom, and the centre eye accommodates the warp thread.

Another important use for the Heald is in forming a tie for bracing various Meccano structures. It can also be used in a motor chassis as a means of connection between the hand brake lever and the brake mechanism on the rear wheels.

It is sometimes found necessary to reproduce a small bracing member or tie-rod, for which purpose ordinary Meccano Rods and Strips are too large and cumbersome. In such circumstances the Meccano Heald will be of great value. For example, it can be used to form mudguard stays for a motorcycle or the bracing wires for the wings and floats of model aeroplanes and flying boats. It is a simple matter to bend the Heald into the shape required, and it may easily be straightened again after use.

The Meccano Loaded Sack (Part No. 122).

Wood Roller (Part No. 106).

The Wood Roller consists of a wood barrel 1" in diameter and 3½" long, and is bored centrally to take a standard Meccano Rod. At each end it has a circular recess to accommodate a Meccano Collar or a wheel boss. There is also a slot to receive the set-screw inserted in the boss so that the Roller can be fixed to a Rod and turn when the Rod is rotated. A narrow groove is cut along the outside of the roller and I will explain the purpose of this later. The Wood Roller is supplied complete with two Collars secured to a 4½" Rod.

The Wood Roller makes an ideal winding drum for use in model cranes, pit-head gear and similar mechanisms in which Cords have to be wound in and paid out. The drum can be formed by adding a Bush Wheel at each end of the Roller in place of the Collars, the bosses of the Bush Wheels being inserted in the recesses at the ends of the Roller.

Another important use for the Wood Roller is in providing a "take-up" device to wind up the cloth as it is produced in a Meccano loom. When used for this purpose two Rollers are required. One is arranged so

Another popular re-introduced part is the Ship's Funnel (Part No. 138).

that it is free to turn in fixed bearings and is slowly rotated through gearing from the driving shaft of the loom. The other Roller is placed above and in contact with the first one, and is free to move vertically in two slides arranged at each end of the machine but is held under spring tension in light contact with the lower Roller. The cloth is attached to the driven roller by placing it under a Rod fitted in the groove provided in the Roller and held in place by elastic bands looped over its ends and the ends of the Roller spindle.

Miniature Loaded Sack (Part No. 122).

This is a special accessary that adds a most realistic touch to Meccano lorries, cranes, conveyors and other types of goods-handling machinery. It can also be used with good effect in connection with Hornby Railway goods trains. It is filled with sawdust and is provided with a small loop of wire by means of which a crane hook can be attached.

Ship's Funnel (Part No. 138).

The specially designed Ship's Funnel is a finely finished accessory that will give just the final touch of realism that makes all the difference to a model ship.

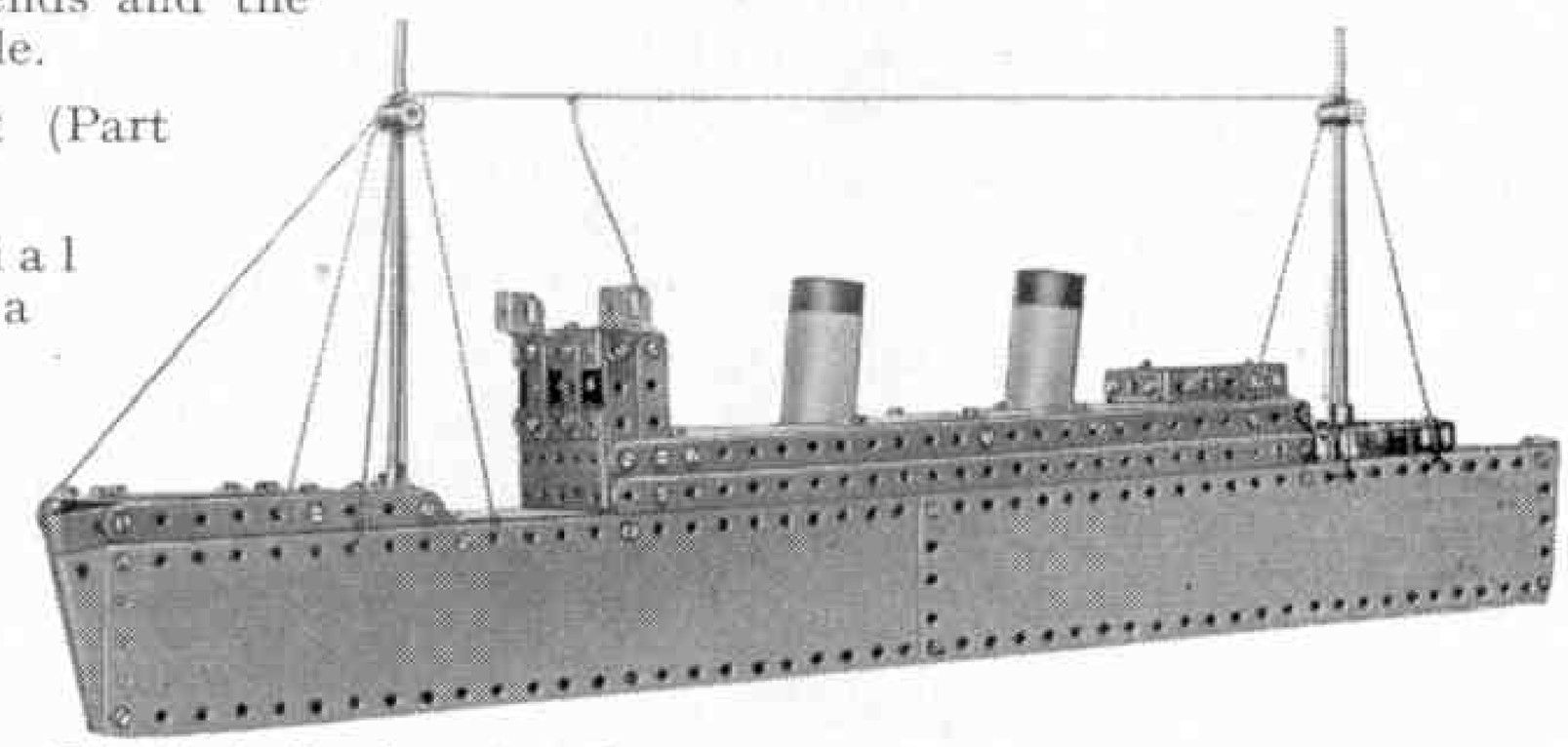
The Funnel is approximately $2\frac{3}{16}$ in. high, and is of oval section, measuring $1\frac{1}{16}$ in. at its widest part. It is of the raked type, so that it lies at a slight angle to the vertical when bolted in position on a vessel. The Funnel is attractively finished in brilliant red, with a deep black band at the top. The base of the Funnel is provided with two perforated lugs, through which it can be bolted to a Plate or other suitable Meccano part.

This useful accessory for model cranes is the Triple Pulley Block (Part No. 153).

Triple Pulley Block (Part No. 153).

It is safe to say that every Meccano owner builds a crane at one time or another, and therefore I am sure you will all welcome the return of the Triple Pulley Block. This Part is similar in general design to the Single Pulley Block (Part No. 151), but is fitted with three pulleys instead of one, which makes it more suitable for cranes handling the heavier types of loads.

The neatly shaped hook is arranged so that it is free to swivel in its mounting, which is also fitted with a lug to which the hoisting cord can be attached.



This illustration shows how the appearance of a simple model vessel can be made very realistic by the use of the Ship's Funnel (Part No. 138).

MORE GOOD NEWS

The re-introduction of the Meccano Wood Roller and the Loom Healds mentioned in these pages has made it possible to build once more a Meccano weaving loom entirely from Meccano parts. Looms have always been popular subjects among advanced model-builders with a good stock of parts at their disposal, as they not only provide ample scope in construction, but the making of the final adjustments and the setting up of the models ready for weaving, is a fascinating pastime for those who like tinkering with tricky mechanisms.

A new model Loom, based on a modern type of machine, will be described in the December issue of the Magazine, and I am sure that it will be eagerly welcomed. Although this model is a comparatively simple one, it is capable of weaving material of excellent texture. The shuttle used in the model is built up from standard Meccano parts.

I advise all those who have written to me on the subject of model looms to make sure of seeing the December issue of the Magazine by placing an order for it with their local Meccano Dealer or newsagent as soon as possible.

Meccano International Model-Building Competition

First Selection of Prize-Winning Models

By "Spanner"

Dudley Basson, Pretoria, South Africa, winner of First Prize in Section B.

AT last I am able to start on a task to which I have been looking forward ever since the Meccano International Model-Building Competition closed for entries on 31st March last. That is to tell you something about the very fine models that won the principal prizes in this great Contest. There are so many to deal with, however, that I can mention only a few at a time in the space available to me. This month I am illustrating some of the models that received the highest awards in each Section, and in further issues I will describe as many as possible of the other splendid efforts that enthusiasts entered in the Contest.

The model that brought success to M. R. Nash, East Bedfont, winner of First Prize in Section A, is a reproduction of a Ransomes Motor Cultivator. It is illustrated in Fig. 2 and is comparatively small in comparison with many of the others entered in this Section. In deciding to award Nash the First Prize the judges were influenced mainly by the neatness and solidity of the constructional details of his model, and it also earned good marks by its originality and realism. Nash was only just turned 9 years of age on the closing date of the Competition. His model has many workable fittings, including steering levers mounted on top of the gear-box that transmits the drive to the tracks, either of which can be driven independently through a differential. The "engine" is built to represent an air-cooled single-cylinder unit, with fan assisted cooling and an automatic clutch in the flywheel. Actually the model is powered by a Clockwork Motor, the drive from which is coupled to the gear-box.

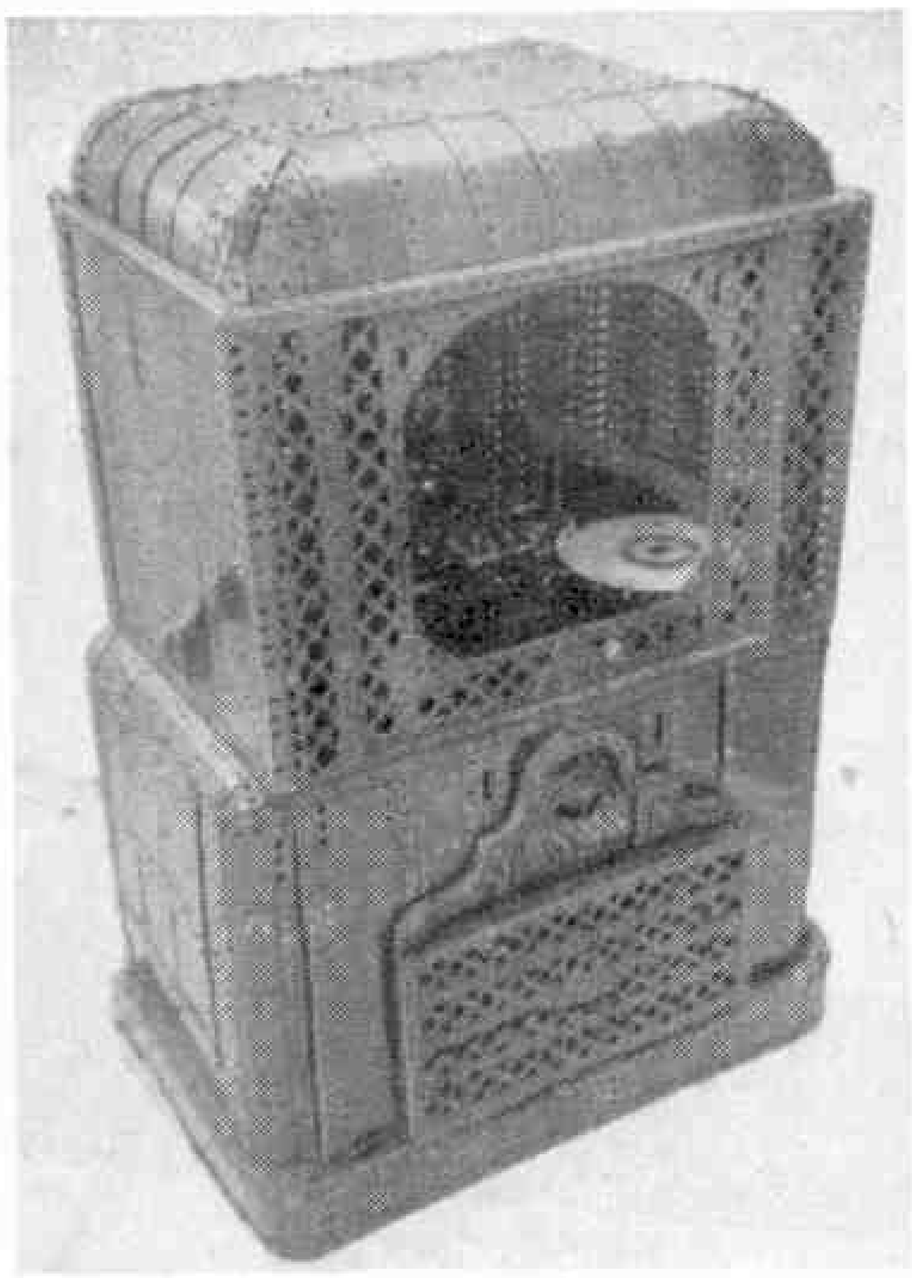


Fig. 1. One of the most original models entered in the Competition. It is a Juke Box designed to take six-inch records, and is controlled by "coin-in-the-slot" mechanism. It was built by D. Basson, Pretoria.

The judges consider this model a good all-round piece of work, and a very creditable achievement indeed for a boy of Nash's age. Congratulations Nash, I hope you will continue the good work in future *M.M.* Competitions.

It would be hard to find a more original subject for a Meccano model than the one chosen by D. Basson, Pretoria, who was successful in taking First Prize in Section B to South Africa. Basson, whose portrait appears at the top of this page, earned his prize with the remarkable model Juke Box shown in Fig. 1. I think this is the first model of this subject that I have seen, and it certainly is an intriguing one for model-builders who like assembling compound mechanisms.

The Juke Box is designed to take six-inch children's plastic records. To operate it, coins are placed in slots provided, and when a button is pressed the Motor comes into action and the record carrier moves forward and stops when the record selected is in line with a special ring carrier. This then takes charge of it and places it on the turntable. Then the pick-up arm is lowered on to the record. When the record has been traversed the pick-up arm goes back to its rest, and the record is lifted from

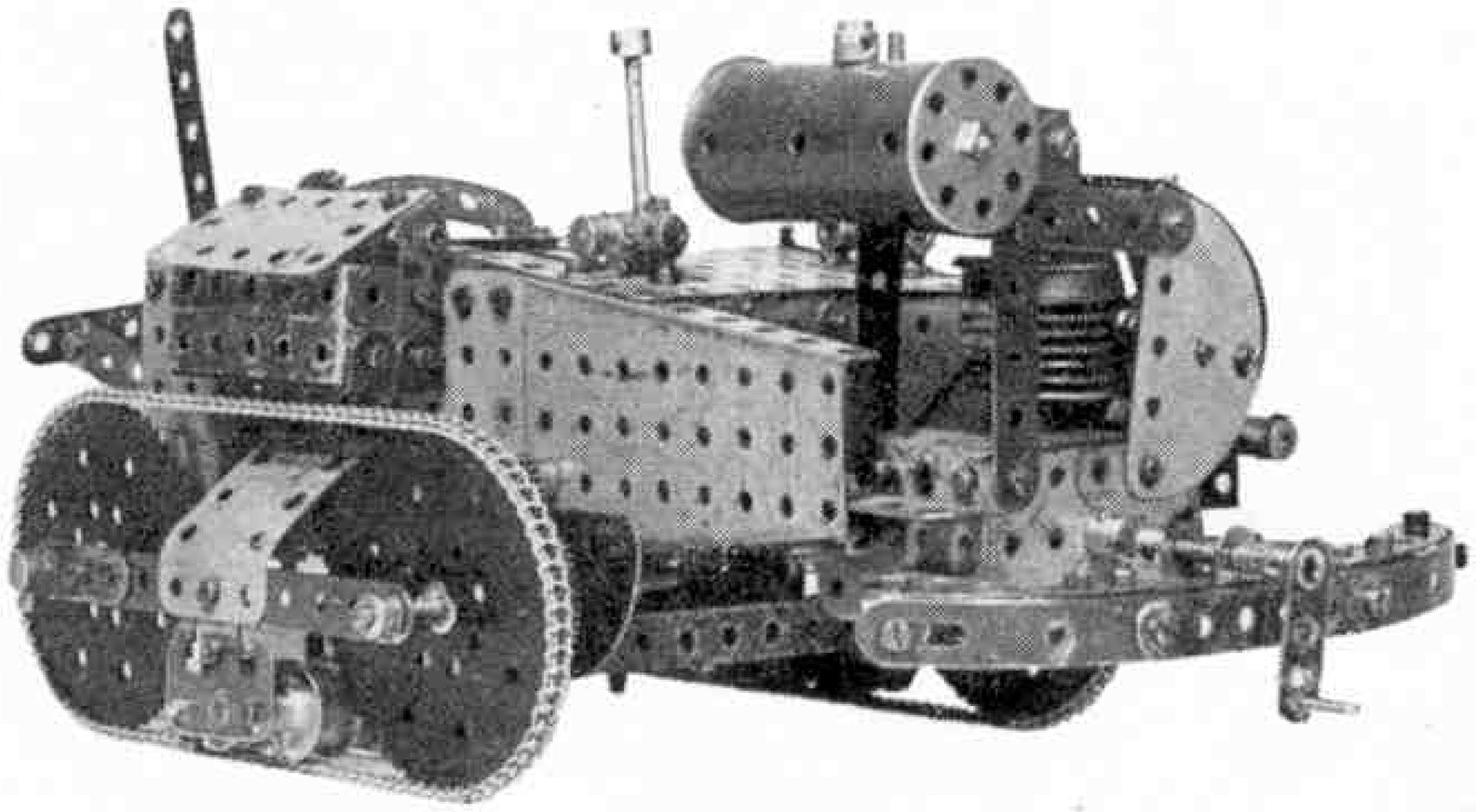


Fig. 2. Neatness, sound construction and realistic mechanism combined to make this Motor Cultivator a First Prize winner for 9-year-old Michael R. Nash, East Bedfont, Middlesex.

the turntable and replaced in the record carrier, which then returns to its original position. Basson owed his success to the very neat and able manner in which he had assembled the intricate mechanisms needed to carry out these complicated motions.

In view of the excellent work done by the younger competitors in Sections A and B readers will naturally expect to find an equally exciting and interesting model carrying off the major prize in Section C, which was reserved for competitors over 16 years of age. I can assure them right away that in this Section there were literally hundreds of models of well above average standard.

Novelty was a strong feature of the entries in this Section, and indeed it was this feature, coupled with a very high standard of construction, which placed a working model of a duplicating machine, built by Mr. B. W. Rowe, Buckfastleigh, at the head of the long list of awards. Mr. Rowe's model, which is shown in Fig. 4, is based on an actual Duplicator, although it is not an exact copy, and he has endeavoured to reproduce its main features as closely as possible.

The model is capable of producing favourable duplicated copies from an original waxed paper stencil. The machine will feed 50 sheets of duplicating paper, from a feed tray under the stencil drum, entirely automatically, and will handle sheets up to foolscap size. After passing under the drum the sheets are automatically stacked one on top of the other in the receiving tray. The stacking arms are pivoted and can be folded into the tray when not in use.

This model was one of five sent by Mr. Rowe, each a really fine example of Meccano construction. The other models were a Showman's Traction Engine and Trailer incorporating a mass of detail work, an agricultural Light Tractor, a seven-foot model of the de Glehn Compound Locomotive, and a large model Oil Engine and Generator. Collectively these models represented a very high standard of workmanship, originality and realism in construction, and so earned the distinction of receiving a First Prize.

The only other entry I can mention this month is a machine for slicing and wrapping ice cream blocks, which was built by T. J. Utting and A. Abbott, and won Second Prize in Section C.

The operation of the machine is as follows. Uncut strips of solid ice cream are placed on a conveyor belt and fed first of all into a slicer and cut into small blocks of equal size, which are then ejected on to another conveyor belt that carries them to the wrapping mechanism. The wrapping paper is fed intermittently and is cut to a measured length at a point immediately in front of a "spoon" which receives each block of cream from the conveyor. As the block is pushed into the spoon by a pusher plate it carries with it a sheet of cut paper. The ends of the paper brush against two side folders, which make the first folds. The spoon, still carrying the block, is then lowered until it reaches the level of a delivery trough. As it moves downward another fold is made by two vertically positioned Flexible Plates, and the remaining end of paper is forced upwards. Then the block is pushed out of the spoon and into the delivery trough. As it enters the trough it passes under a V-shaped piece, which causes the paper at the ends of the block to fold over the top. A spring-loaded top plate holds the block tight against the bottom of the trough, so creasing the paper and preventing it from unfolding.

The machine is driven by two electric motors and is capable of wrapping 25 blocks of ice cream each minute.

One of the main problems that its builders had to solve in building this most attractive model was the positioning of nuts and bolts so as to ensure that these would be well clear of the blocks and would not prevent their free passage through the various parts of the machine.

The model is built entirely from standard Meccano Parts with one or two exceptions, which include a steel cutting blade and material for the conveyor belts.

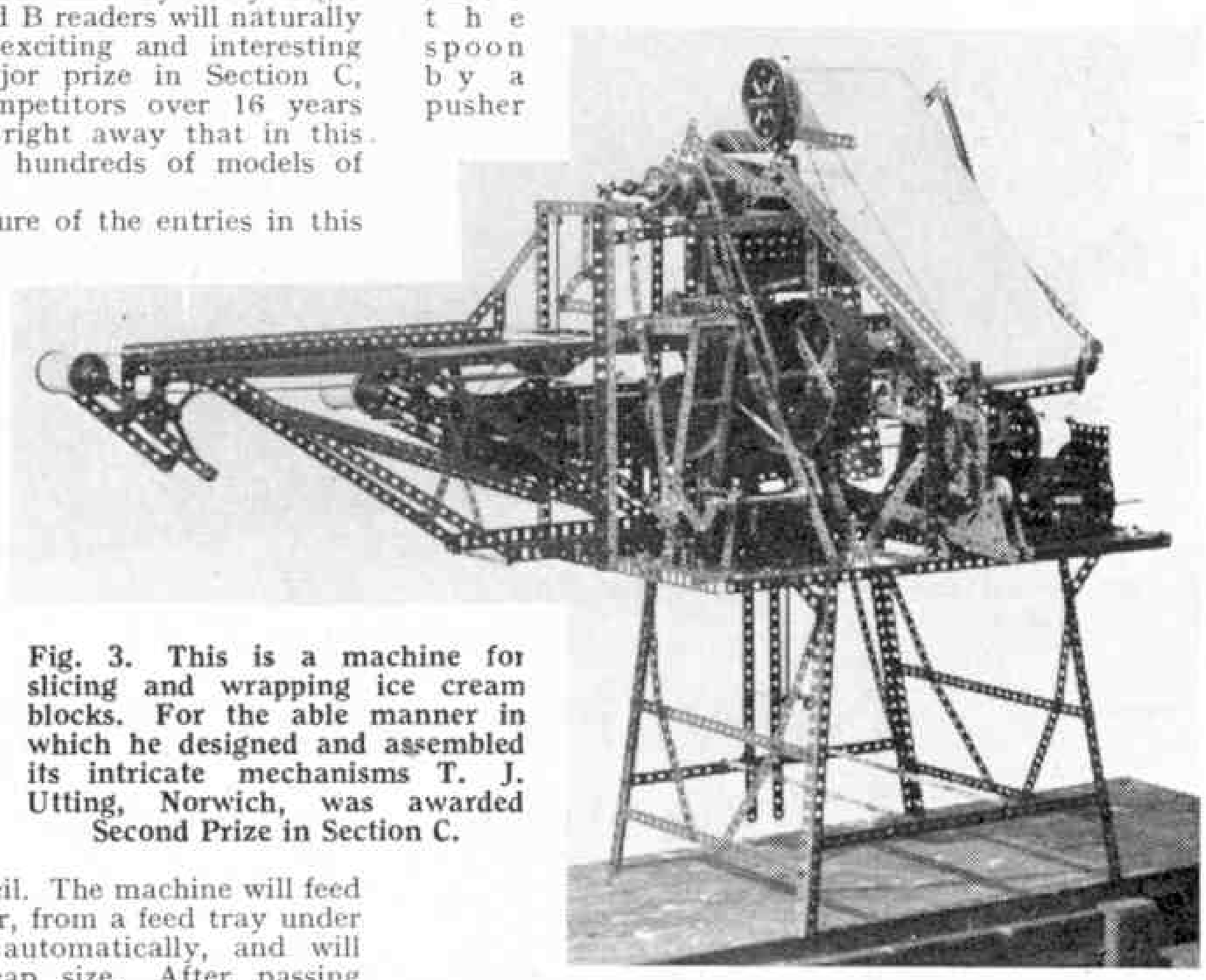


Fig. 3. This is a machine for slicing and wrapping ice cream blocks. For the able manner in which he designed and assembled its intricate mechanisms T. J. Utting, Norwich, was awarded Second Prize in Section C.

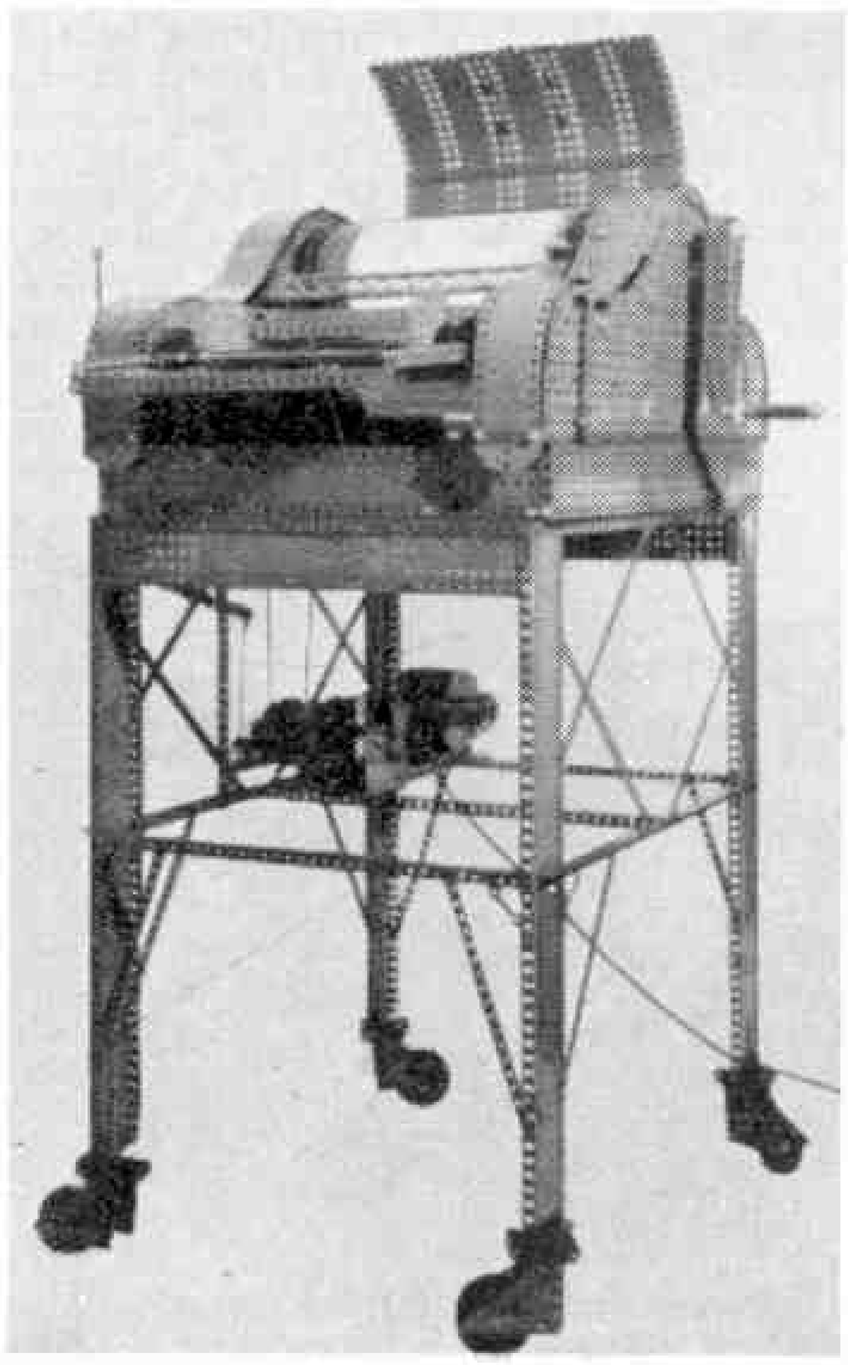


Fig. 4. This model Duplicating Machine was one of several attractive and well-built models that won First Prize in Section C for Mr. B. W. Rowe, Buckfastleigh, Devon.

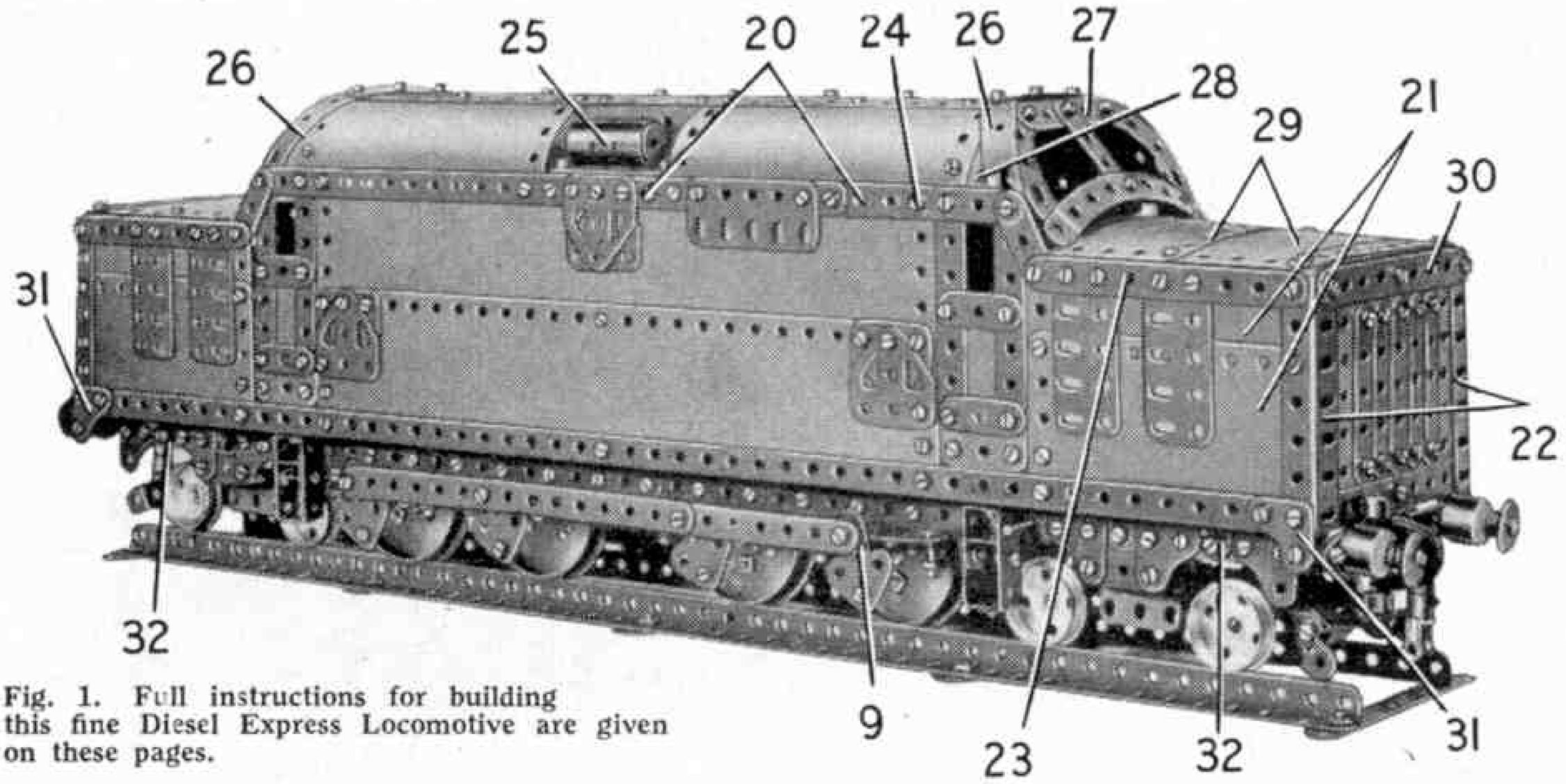


Fig. 1. Full instructions for building this fine Diesel Express Locomotive are given on these pages.

New Meccano Model

Diesel Express Locomotive

THE attractive model shown in Fig. 1 on this page represents a main line diesel locomotive and its general design follows that of the experimental Fell Diesel Mechanical Locomotive in service on British Railways.

The main frames of the model are made from two 12½" Strips on each side overlapped three holes. These Strips are connected together by two 3½" × 2½" Flanged Plates 1, a 3½" × ½" Double Angle Strip 2 and by two similar Double Angle Strips 3. The 12½" Strips are fitted with eight Fishplates and two 1" Corner Brackets 4, and to these are bolted two 1½" Strips positioned at 5, two 2½" Strips 6 and a 3½" Strip 7. The short Strips serve as supports for the spring hangers.

The spring hangers are Angle Brackets bolted by their slotted holes to the Strips 5, 6 and 7, and each spring consists of a 2½" and a 1½" Strip. The Strips are fixed tightly together by a nut and bolt, and a Collar 8 is screwed partly on to the bolt so that a Rod in the Collar is able to rotate freely. The spring is attached to its hangers by two ½" Bolts. Each of these is fixed in one of the Angle Brackets by a nut, and the spring is then held in place between two nuts at the upper end of the Bolt.

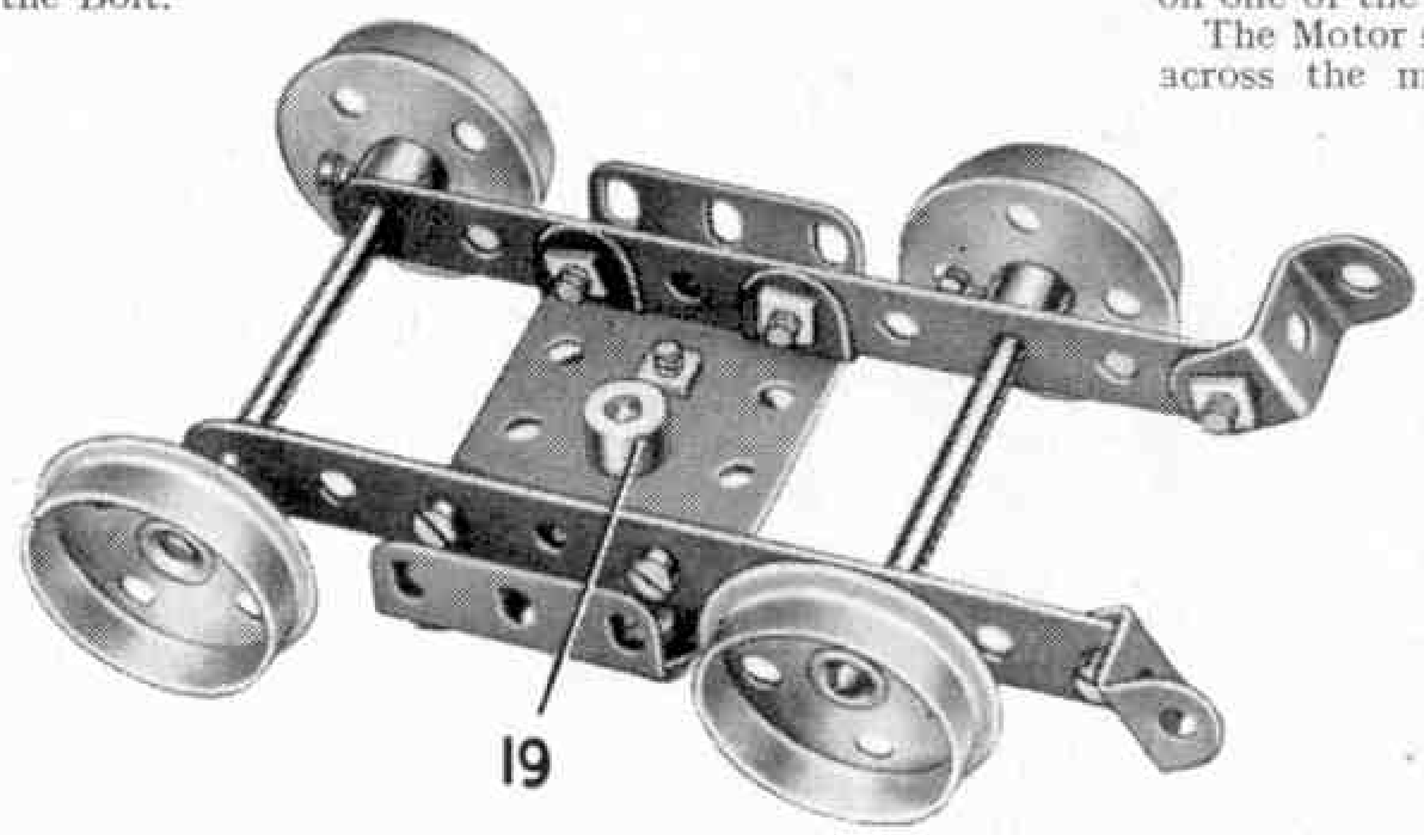


Fig. 2. An underneath view of one of the bogie units showing the method used to attach the wheel bearings.

The driving axles are 5" Rods, and each is supported in two of the Collars 8. In order to obtain a smooth drive to each axle, they are connected by Sprocket Chain passed round ¾" Sprockets as shown in Fig. 4.

Double Arm Cranks 9 fixed to the ends of the driving axles form the coupling rod cranks. The coupling rod itself is in three sections in order to allow for movement of the axles caused by the action of the springs. The centre section is a 4½" Strip, and the end sections are 3½" Strips. These Strips are lock-nutted by ⅜" Bolts to the Double Arm Cranks, two Washers on each Bolt being used to space the Strips from the Cranks. A 1" Corner Bracket is bolted to the free arm of each Double Arm Crank to represent the balance weight.

An E20R Electric Motor is attached by its flanges to four Double Brackets bolted to the Double Angle Strips 3. A 1½" Corner Bracket 10 is fixed to each of the Motor side-plates, and a ½" Pinion on the armature shaft meshes with a 57-tooth Gear on a 2½" Rod 11. A ½" Pinion on this Rod engages a 57-tooth Gear 12 on a 2½" Rod, and a ½" Pinion on the same Rod drives a further 57-tooth Gear on a 2½" Rod 13. A 1" Sprocket on Rod 13 is connected by Chain to a 1½" Sprocket 14 on one of the driving axles.

The Motor switch is controlled by a Rod 15 mounted across the main frames. A Collar on this Rod is connected by a bolt to one arm of a Double Arm Crank fixed on a 5" Rod 16. This Rod is supported in a 1" × 1" Angle Bracket bolted to one of the Double Angle Strips 3, and in a Fishplate fixed to a 3½" × ½" Double Angle Strip 17. A Crank on Rod 16 is linked by a 2½" Strip and lock-nutted bolts to one arm of the Motor switch.

Each bogie unit is made by bolting two 4½" Strips to Angle Brackets fixed to a 2½" × 1½" Flanged Plate. A Bush Wheel is attached to the centre of the Flanged Plate, and a 1½" Rod is passed through the boss of the Bush Wheel. The Rod is fixed in a Slide Piece 18, but the bogie is spaced from the Slide Piece by a Compression Spring and is held on the Rod by a Collar 19. The Slide Piece is slipped over a 2½" Strip attached to one of the Flanged Plates 1

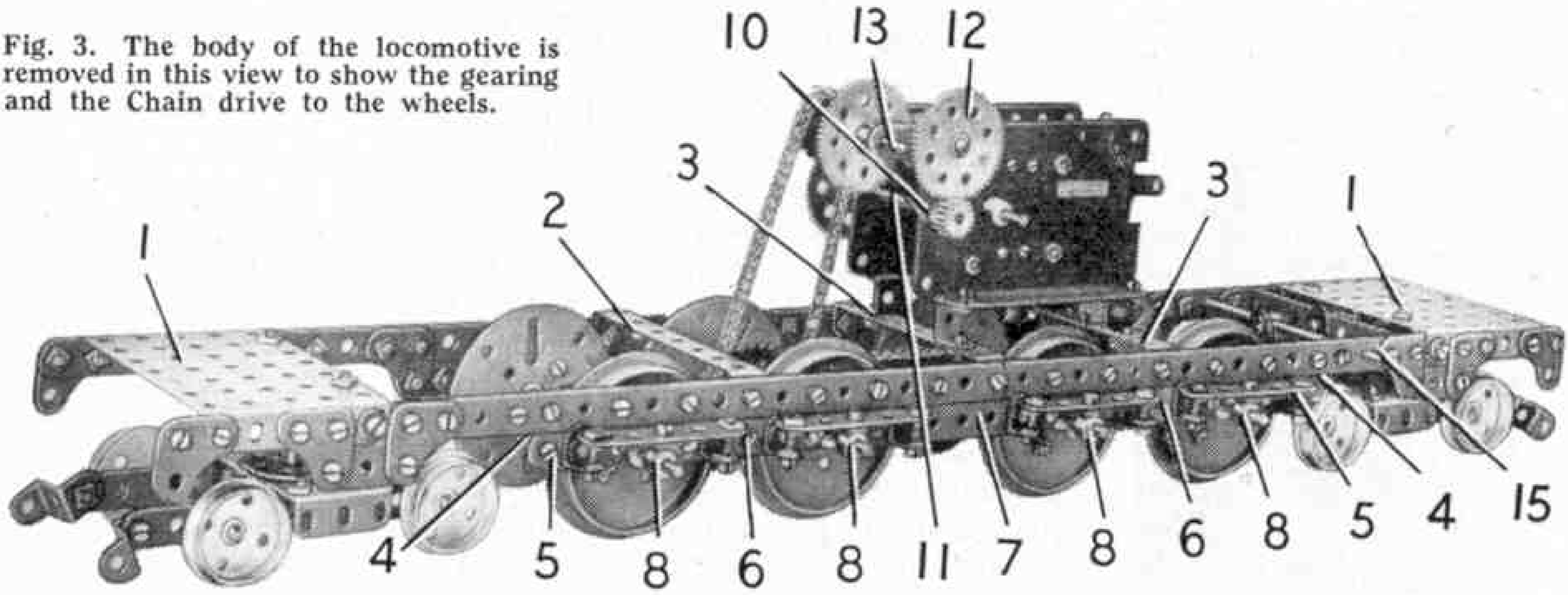


Fig. 3. The body of the locomotive is removed in this view to show the gearing and the Chain drive to the wheels.

by $\frac{3}{8}$" Bolts, and the Strip is separated from the Flanged Plate by three Washers on each Bolt.

The main frames are completed by adding three 1" Corner Brackets and a $1\frac{1}{2}$" Strip to each end to form the arches for the bogie wheels.

The body is assembled as a separate unit on a framework formed by two $24\frac{1}{2}$" Angle Girders connected at their ends by $4\frac{1}{2}$" Angle Girders. The centre section of each side consists of two $12\frac{1}{2}$" Strip Plates, and the upper edge of the top Strip Plate is strengthened by a $12\frac{1}{2}$" and a $3\frac{1}{2}$" Strip 20. These Strips overhang the Strip Plate by three clear holes at each end.

Each end of the body is formed by two $4\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates 21 overlapped along their longer edges by three holes. The Flexible Plates are bolted to the $24\frac{1}{2}$" Angle Girders, and they are edged by a $3\frac{1}{2}$" Angle Girder 22 and a $4\frac{1}{2}$" Strip 23. A $1\frac{1}{2}$" Strip is attached between the ends of Strips 20 and 23. Each door is made by bolting two $3\frac{1}{2}$" and two $1\frac{1}{2}$" Strips to a $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flexible Plate as shown in Fig. 1. The upper ends of the $3\frac{1}{2}$" Strips are fixed to the Strips 20, and the lower edge of the Flexible Plate is attached to a $2\frac{1}{2}$" Strip bolted between the Flexible Plates and the Strip Plates. The completed sides of the body are connected across by $4\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strips held by the Bolts 24, and the air grilles in the sides are represented by $2\frac{1}{2}$" Flat Girders and Flat Trunnions as shown in Fig. 1.

The edge of the roof (Fig. 1) is made from two $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates arranged to leave a gap at the centre. The opposite side also uses two $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates, but the centre is filled in by a $3\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plate. The Flexible Plates are bent over and their inner edges are joined by two $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates and a $4\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plate. A Sleeve Piece 25, fitted at each end with a Chimney Adaptor, is bolted to a $2\frac{1}{2}$" Flat Girder, and the latter is attached to a $2\frac{1}{2}$" Angle Girder fixed to the side. The edges of the gap that accommodates the Sleeve Piece are filled by Semi-Circular Plates attached to the side by Angle Brackets. The rear of the gap is filled by a $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flexible Plate fixed to a $2\frac{1}{2}$" Angle Girder bolted to the roof.

The driving cab window at each end of the locomotive is formed by Formed Slotted Strips 26 bolted between the roof and the ends of Strips 20. The window frame consists of two $2\frac{1}{2}$" Stepped Curved Strips bolted to the ends of a $2\frac{1}{2}$" Strip 27, which is attached to the roof by an Angle Bracket. A centre division of the window frame is provided by a 2" Strip, and two 4" Stepped Curved Strips overlapped seven holes are bolted to the lower end of the 2" Strip. A $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flexible Plate 28 is bolted to each corner of the roof to fill the gap between the $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plate and the Formed Slotted Strip.

Two $4\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates 29 are attached to Angle Brackets bolted to the Strips 23. The radiator is a $3\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate fitted as shown with five $2\frac{1}{2}$" Strips, and it is connected by Fishplates to a $4\frac{1}{2}$" Strip 30 and to the $4\frac{1}{2}$" Angle Girder bolted to the ends of the $24\frac{1}{2}$" Angle Girders.

The buffer beams are $4\frac{1}{2}$" Strips bolted to Angle Brackets fixed to 1" Corner Brackets 31. Each buffer consists of a $\frac{3}{4}$" Washer, a number of ordinary Washers and a Chimney Adaptor fitted over a $1\frac{1}{8}$" Bolt. The train coupling is made by joining together two small Fork Pieces with a $\frac{1}{2}$" Bolt, and the jaws of the upper Fork Piece are pivoted on a $\frac{3}{4}$" Bolt passed through a Double Bracket that is bolted to the buffer beam.

The completed body is attached to the main frames by two Angle Brackets 32 on each side.

The vacuum brake pipe is represented by a Spring looped over a $1\frac{1}{2}$" Rod and held in place by a Collar, which is fixed to each end of the Rod. A bolt fitted with three Washers is passed through the buffer beam and is screwed into a threaded hole of one of the Collars to fix the assembly in position.

The steps to the driving cabs are each made from two $1\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strips connected by a Double Bracket, and they are bolted to the $24\frac{1}{2}$" Angle Girders of the body.

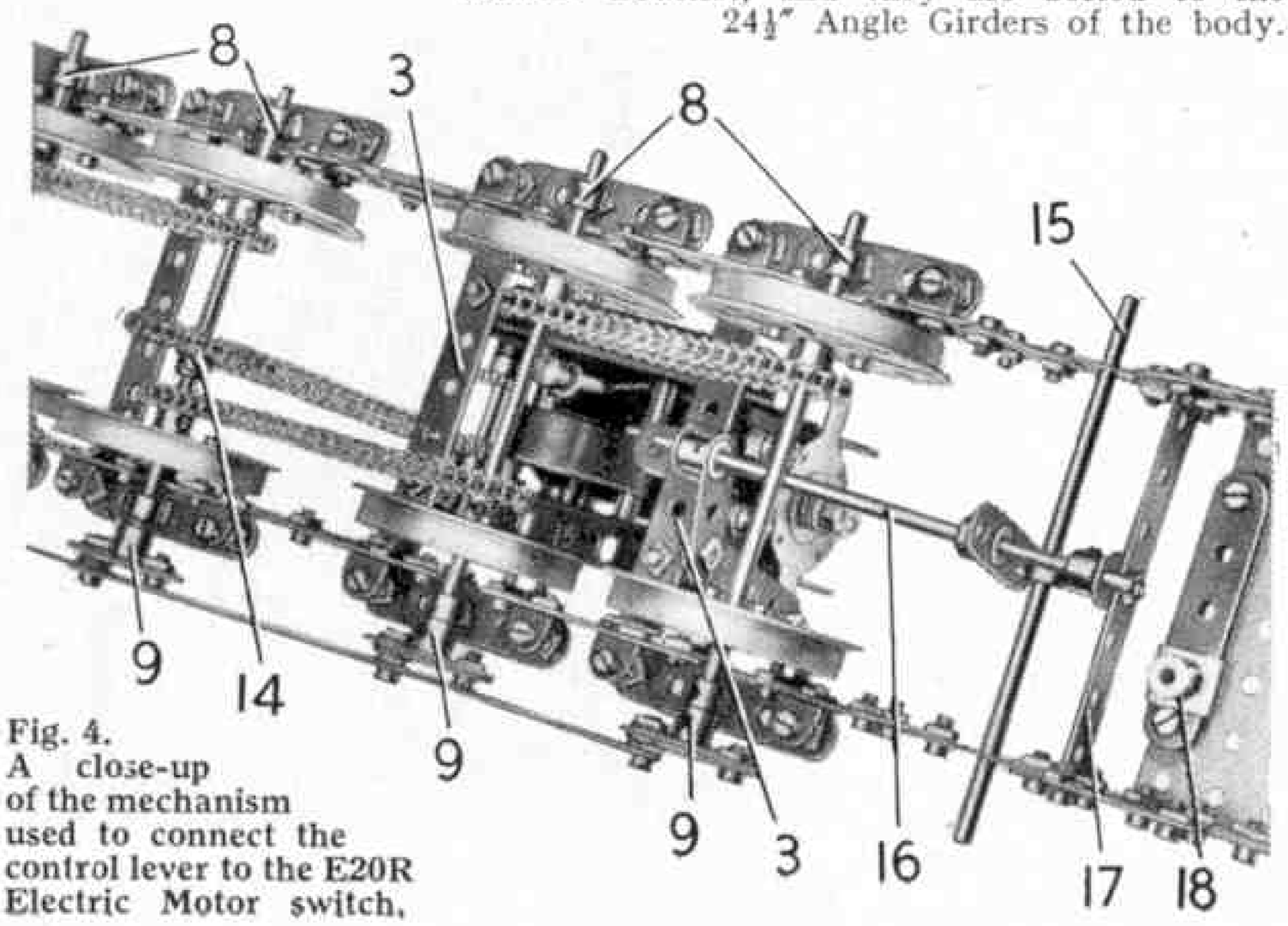


Fig. 4. A close-up of the mechanism used to connect the control lever to the E20R Electric Motor switch.

Peter G. Keith, London W.1, who won a prize of £5 in Section B of the Meccano International Model-Building Competition.

More Prizes for Model-Builders

A Competition for Meccano Models of all kinds

THIS month we announce the first of the autumn competitions in which useful cash prizes are offered for the most original and best built Meccano models of any kind. Everyone who owns a Meccano Outfit is eligible to send in an entry.

All a competitor has to do is to think of a new model and then to set to work to construct it as neatly and realistically as possible from standard Meccano Parts.

The judges will award the prizes for those models that are the most original in subject, and are neatly designed and proportioned and built on correct mechanical principles.

When the model is completed it is only necessary to obtain either a photograph or a good sketch of it and send this to us. *The actual model must not be sent.* The photograph or drawing need not be the competitor's own work, but it is absolutely essential that the model itself should be the result of his or her own unaided efforts. Entry forms are not required and there are no fees to be paid. *The Competition is open to readers of all ages living in any part of the world.*

The Contest will be divided into the following two Sections: A, for competitors living in any part of the world and under 14 years of age on 30th January next. B, for competitors over 14 years of age on 30th January, 1954. A separate set of prizes as follows will be awarded in each Section.

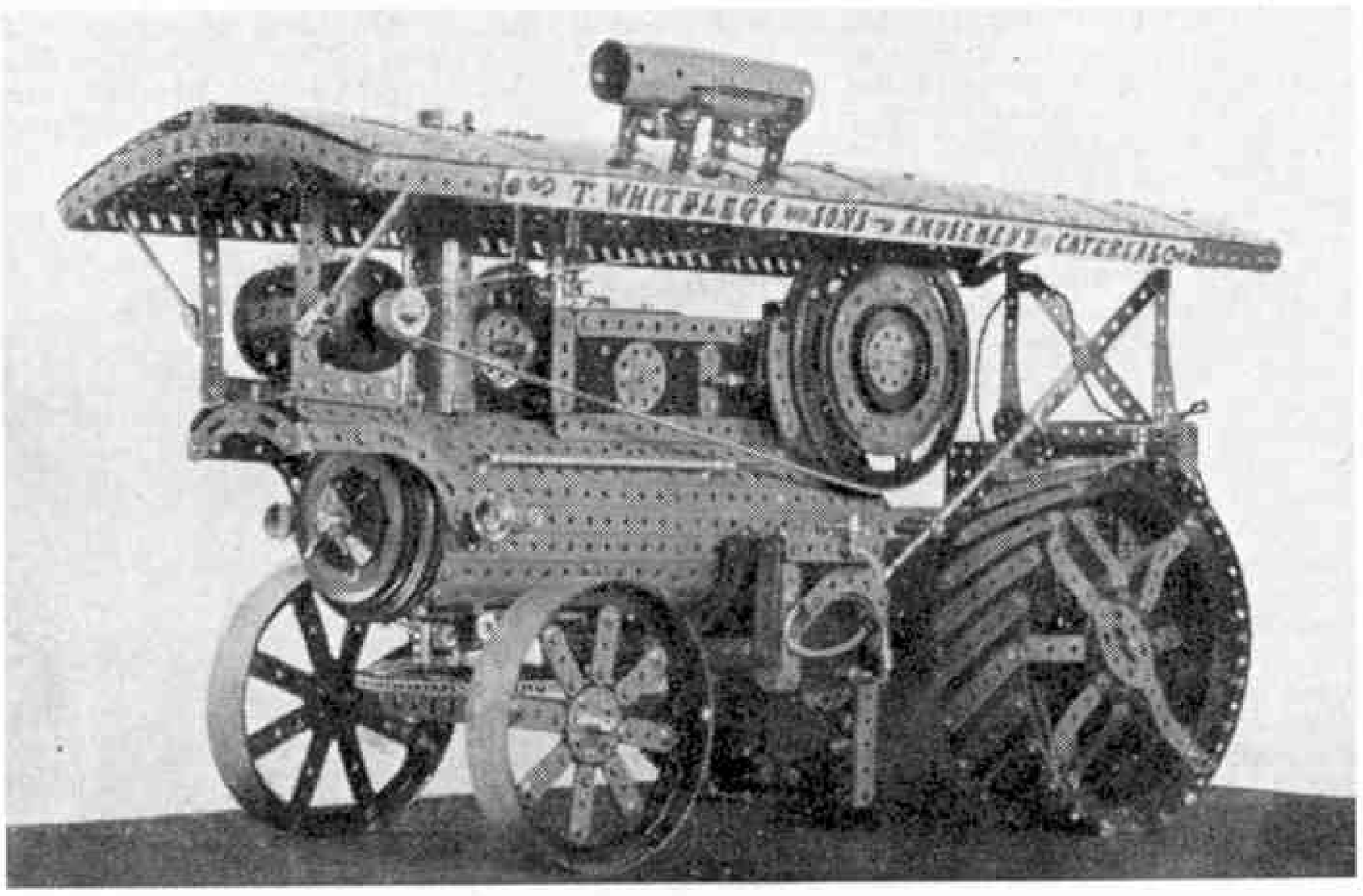
First: Cheque for £5. Second: Cheque for £3. Third: Cheque for £2. Ten Prizes, each of £1. Ten Consolation Prizes, each of 5/–. A number of Certificates of Merit will also be awarded.

Models of any kind whatever may be submitted, so that competitors have a very wide choice of subject. Those that really "work" or that may be put to some practical use, will stand a better chance of winning prizes than models that are not built to work. Any number of parts may be used in building models, but good solid construction will count more than mere size alone.

Before posting their entries competitors must take care to write their *ages, names and addresses clearly on the back of each photograph or drawing submitted.*

Competitors must post their entries in time to reach this Office on or before 30th January, 1954. Envelopes should be addressed *"October Meccano Model-Building Competition, Meccano Ltd., Binns Road, Liverpool 13."*

Each prize-winner will be notified by letter as soon as possible after 30th January.



This splendid Showman's Traction Engine was one of several excellent models submitted by Mr. B. W. Rowe, Buckfastleigh, in the International Model-Building Competition.

Club and Branch News

WITH THE SECRETARY

GETTING UNDER WAY

Here we are at the beginning of another Winter season with, I hope, Club and Branch programmes for the first of its two Sessions already settled. Model-building continues to be the main activity of Clubs and layout construction and track operations the major occupations of Branches. But it is nice to do something else for a change now and then, so take care to include other activities such as Games Nights Film Shows, Quiz, Debate and Social Evenings, and Visits to places of interest that do not entail the members being out-of-doors all the time.

The model-building meetings themselves can be made additionally attractive by arranging competitions in which the members are grouped into rival factions and set in friendly rivalry against each other. Or all the members can be set to work building models of a particular subject, such as cranes, motor cars, bridges, and so on. A small prize can be given to the builder of the best model, or he can be awarded so many points towards a certain points total set as the Club target for the Session. The member attaining the highest number of points by the end of the Session wins a prize.

PUT DINKY TOYS IN THE PROGRAMME.

Effective use was made of Dinky Toys vehicles to represent traffic on the roads of the model town included in the scenic effects of the Exhibition Gauge 0 layout of the Magdalen College School (Oxford) Branch. I feel that the great possibilities of these attractive miniatures are not as fully exploited as they might by some Branches when staging track Exhibitions.

Now that the range of Dinky Toys models is steadily increasing, there is sufficient variety to make it worth while for Clubs and Branches to arrange a regular Dinky Toys Night or indeed a Dinky Toys Section. Building up a Dinky Toys layout is really good fun, and I am sure it will be well worth while to try this. The articles by Toyman now appearing in the Magazine will give a good idea of what can be done.

CLUB NOTES

NEWTOWN SCHOOL (WATERFORD) M.C.—A visit to a large bakery in the district was greatly enjoyed, a member of the staff there explaining the various processes and answering the many questions which members asked. Meccano model-building was not entirely neglected during the Summer Sessions. Club roll: 12. *Secretary:* A. Pim, Anngrove, Mountmellick, Leix, Eire.

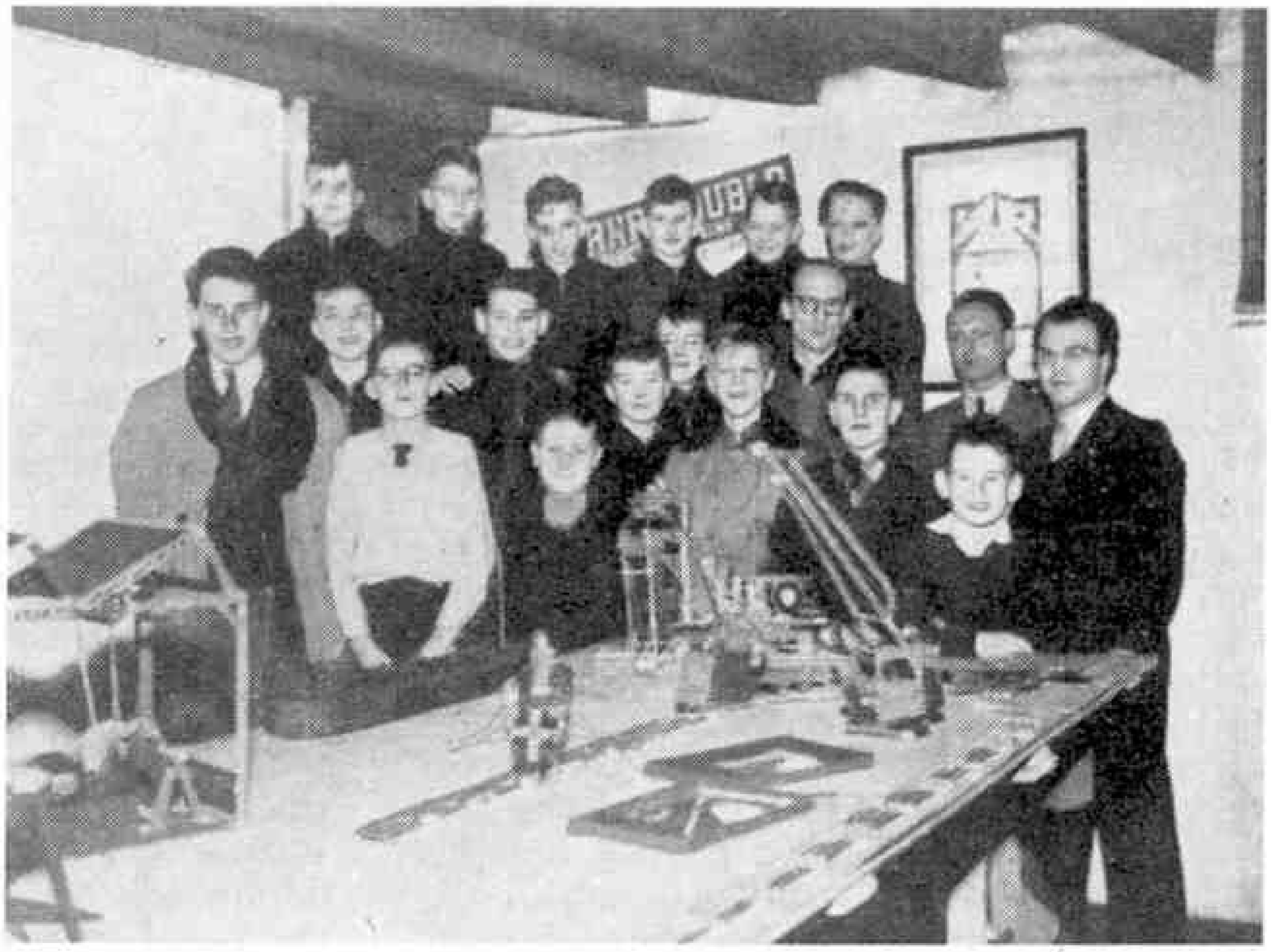
AUSTRALIA

MAYLANDS M.C. — Meccano model-building meetings continue to be the most popular of the Club's many activities. The annual Presentation Night was attended by about 80 people and the presentation of Guild Medallions and special Club trophies was made by an ex-member of the Club. A splendid show of models was held in the Clubrooms on two nights recently, and a photograph of two of the members at work on the Giant Blocksetting Crane for this display appeared in the *West Australian* newspaper. Outdoor activities have included a paper chase, treasure hunt, and hiking expeditions. The Club has been visited by 10 members of the Maylands Methodist Boys' Club, who joined in a Games Evening followed by refreshments. Club roll: 45. *Secretary:* B. Lee, 16 Kennedy Street, Maylands, Western Australia.

FREMANTLE AND DISTRICTS M.C.—An intensive eight-week programme of Model-building is in hand, at the end of which an Exhibition will be held at the Royal Show if the necessary space can be booked. Other activities planned include Games Nights and a "Mechanical Recognition Night" in which pictures placed under the lens of a crude type of projector are thrown upon a wall. The pictures are first mutilated with a pair of scissors, and members, armed with pencil and paper, are invited to identify the "remains" flashed upon the wall. Club roll: 15. *Secretary:* G. Shea, 12 Foss Street, Palmyra, Western Australia.

BRANCH NEWS

MAGDALEN COLLEGE SCHOOL (OXFORD) — The Commemoration Exhibition layout, the climax of the Branch's activities during the school year, was a great success. It included a Gauge 0 double track main line, sidings, loops and a branch line. Scenic effects, with miniature shops, houses, and roads busy with Dinky Toys traffic, added to the attractiveness of the layout. A smaller, Hornby-Dublo layout also was operated. *Secretary:* D. F. Moss, 61 Victoria Road, Summertown, Oxford.



Officials and members of the Nijmegen (Holland) M.C. This enthusiastic and progressive Club, affiliated with the Meccano Guild in February 1952, won the first prize in the Meccano Club Section of the recent Meccano International Model-Building Competition. Already its Exhibitions have excited local interest and praise by reason of the excellence of the Meccano models displayed.

HORNBY RAILWAY COMPANY

By the Secretary

Double Track and New Wagons

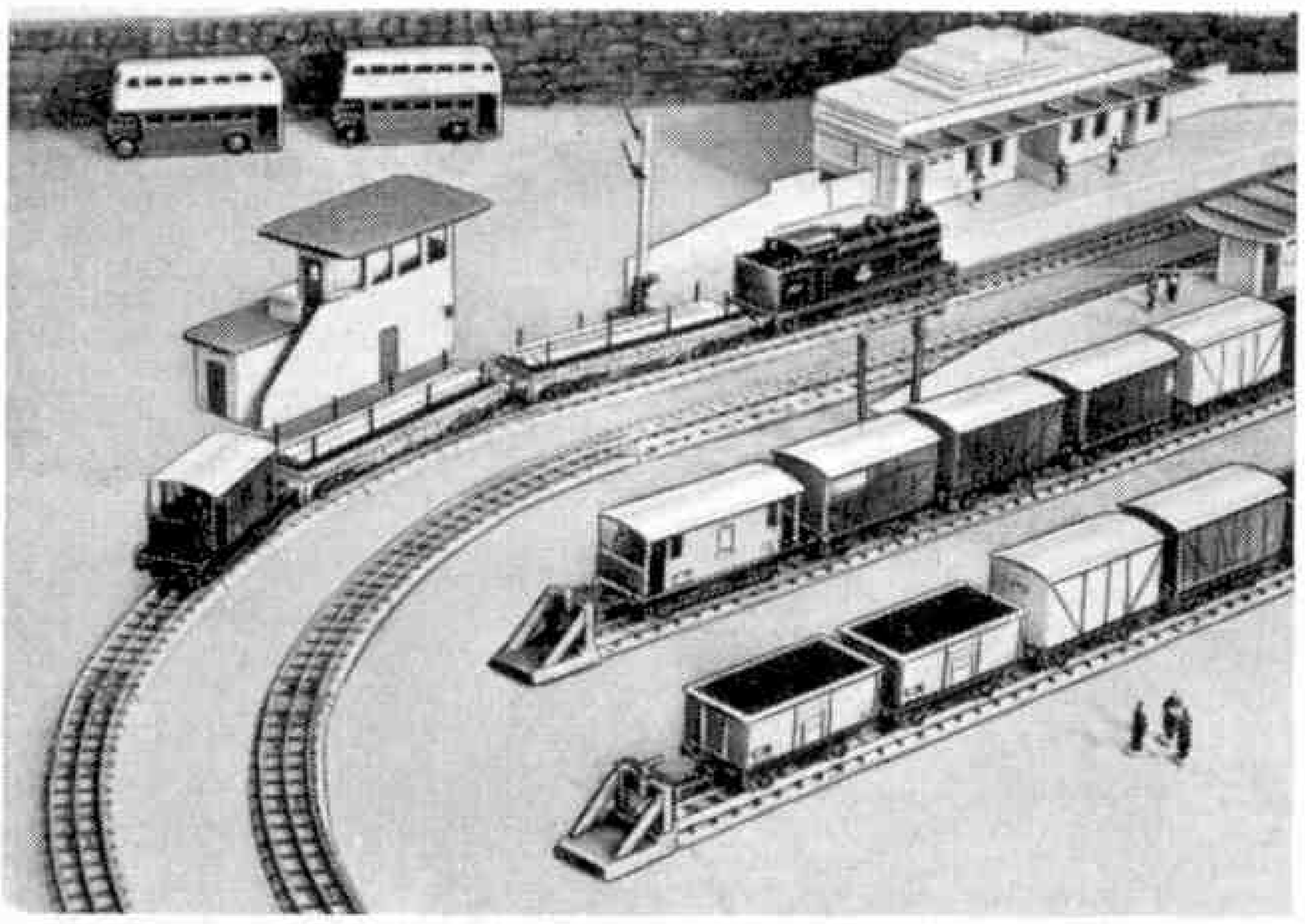
THIS month I want to say something about some of the new items that have become available for Hornby-Dublo railway owners during recent months. You are all keen to have the various additions made to the System, as you wish to make your railways more comprehensive and realistic.

For instance, many of you, quite rightly, insist that your systems must have double track main lines. Now this can be done with the standard curves EDA1 of 15 in. radius, but the result rarely looks quite right, as the outer and inner curves obviously cannot run truly parallel to one another. You all know how attractive a real railway line looks when you see it from the vantage point of an overbridge, curving away into the distance. The alignment looks perfect, with the curves of the up and the down tracks matching one another exactly. The whole thing, in fact, is a tribute to the engineers who set out the track in the first instance and to the surfacemen who maintain it day by day.

Now you too can achieve this effect, by using the Hornby-Dublo EDA2 Curved Rails, which have been reintroduced in the System. They have a radius of just over 17¼ in., and they are designed to form the outer track of a double track layout, the inner track being provided by the EDA1 curves. Eight of the EDA2 Curved Rails form a circle. The manner in which they fit in with the EDA1 curves is shown quite clearly in the diagram on the next page, and the picture on this page shows how well the two sizes of curve work together to produce a nicely paralleled track.

On the back cover of the August *M.M.* there was a picture of the Hornby-Dublo D2 Mineral Wagon. This fine newcomer is a striking reproduction of the standard all-steel 16-tonners that are in common use on British Railways. They are used extensively for coal and mineral traffic, and are suitable for carrying all kinds of rough loads, such as stone and so on.

The Hornby-Dublo miniature is notable in having a one-piece, pressure die-cast body. The fact that the body is a casting allows the reproduction of a remarkable amount of detail, so that the model incorporates the characteristic "ledge" around the sides and ends, and also is distinguished by the stiffening angles and other members that are prominent on the sides and ends of the real thing. In particular, the amount of detail that is incorporated on the end that represents the end-tipping door of the real vehicle is very pleasing. The die-cast body is firmly attached to the usual Hornby-Dublo die-cast base.



See how well the double track curves look on this layout, the outer one formed of the EDA2 Curved Rails and the inner one of the standard EDA1 Curves. The loaded Bogie Bolster Wagons look very effective.

The Mineral Wagon is finished in the clean-looking grey shade that distinguishes the ordinary freight vehicles of British Railways, and tonnage, number and other details are neatly reproduced in white on the usual background patches.

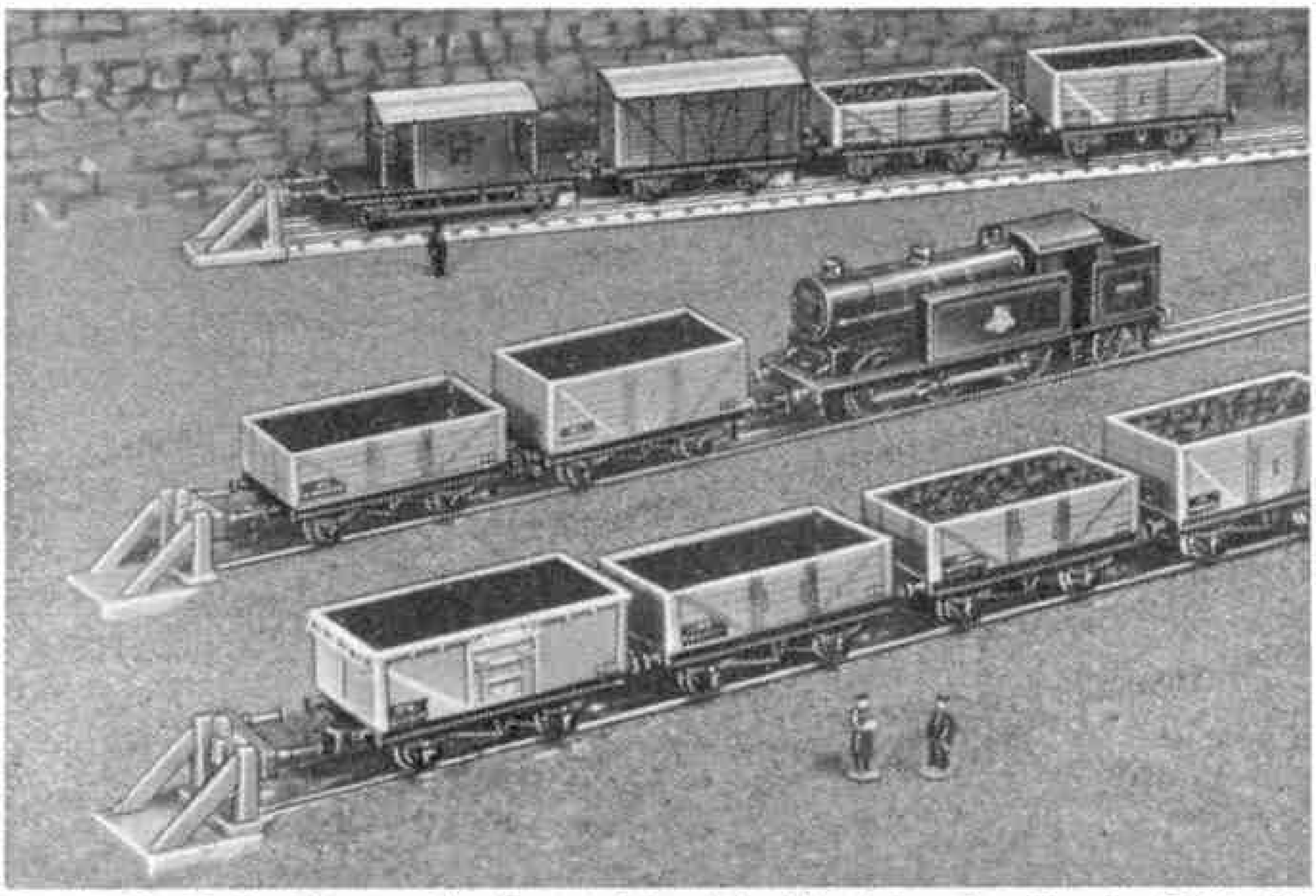
This smart vehicle can be used effectively on practically any layout. It is ideal for "loco coal" purposes in the engine yard. When used in this way it can be provided

with a dummy load that is easily arranged by the Hornby-Dublo owner. Briefly, the scheme is to make up a false bottom from a piece of card, something like the lid of a box, that will just fit into the wagon body top, and gluing small pieces of coal over its upper surface. One or two vehicles "loaded" in this way look very effective.

Some of the real vehicles are almost bound to find their way into a coal train nowadays, and it is possible to see quite long formations of them. The same practice can be followed in Hornby-Dublo and a complete train of about half-a-dozen of the Dublo Mineral Wagons, either loaded or returning empty to the collieries, looks very effective. I am sure that most of you will want to add this new vehicle to your stock.

Another wagon that has been referred to previously is the Bogie Bolster, and I expect that most of you have already provided ways and means of fixing up suitable loads for it. The real bogie bolsters are used for a variety of purposes, such as the carriage of timber, poles, and so on.

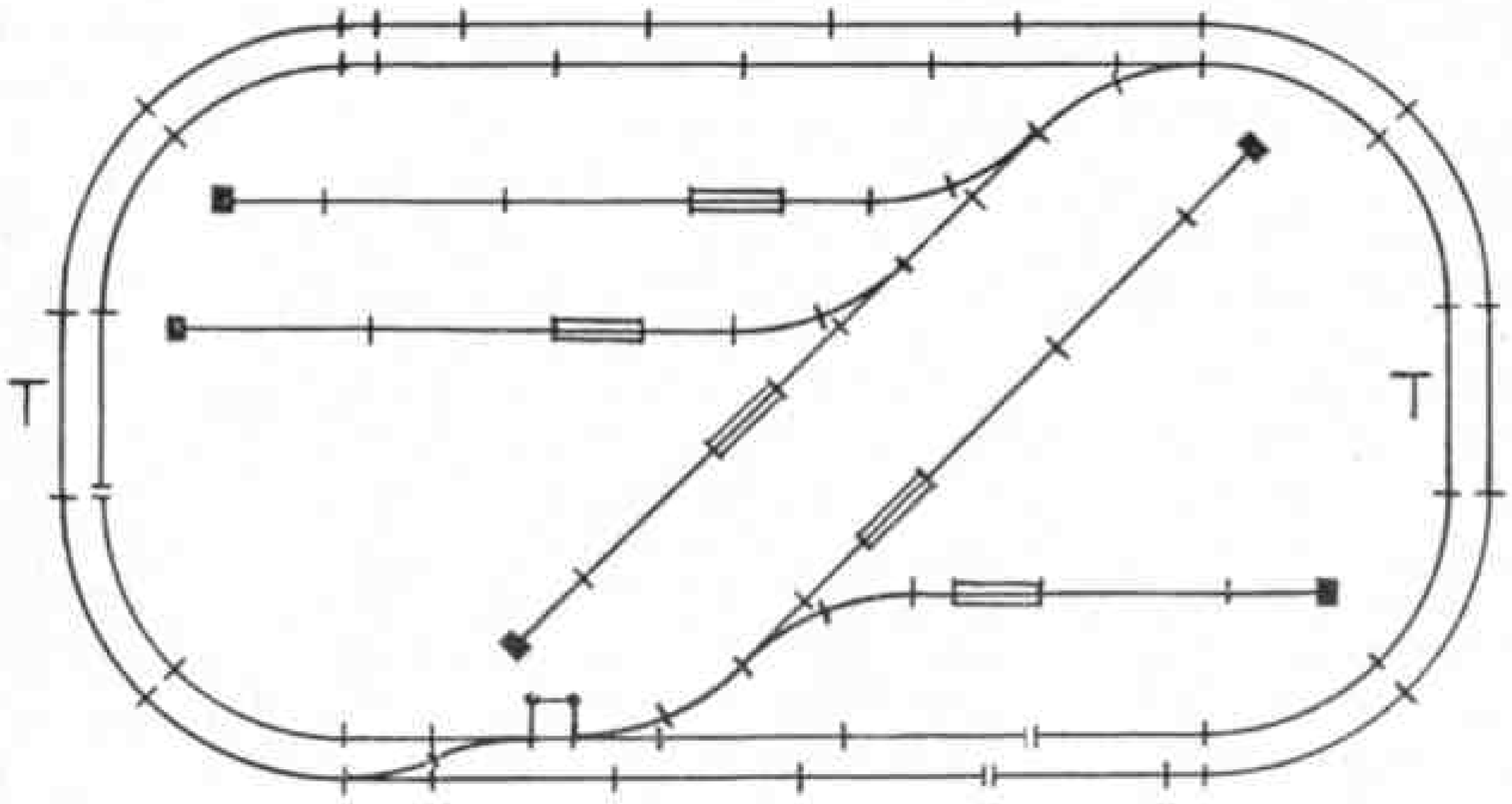
It does not require a great deal of ingenuity on the part of the Hornby-Dublo Goods Manager to turn out a suitable load. A very effective one can be cut from a stick taken from a hedge, bush or small tree, but before you try this make sure that you have permission to do the necessary cutting! Having gained your stick, select a length that is reasonably straight and saw it off so that it will just fit along the four bolsters with which the Wagon is provided. If it fits neatly between the stanchions at the outer ends of the bolsters it will probably stay quite securely in place while the wagon is on the run.



Next to the Buffer Stops on the foremost track in this picture is a Hornby-Dublo D2 Mineral Wagon, the uses of which are specially described in this article.

Here is another suggestion. The plain wooden spills that many people use for lighting the gas cooker make very good lengths of sawn timber for the Bogie Bolster. If there are none at home they can readily be bought from a tobacconist. Cut a suitable number to length and bundle them together with small elastic bands; then you can load them on your wagon.

In some districts timber traffic is an important and regular feature, and if your railway is supposed to serve a district like this you may need more than one Bogie Bolster Wagon. Alternatively, a single Bogie Bolster can run in the make-up of almost any type of freight train except express ones consisting only of Vans.



A typical double track formation incorporating the EDA2 Curves in the outer track. Isolating Switch Points are used in this layout and a secondary feeding point is arranged in the usual manner by means of an Isolating Rail.

Track Work

WE are all familiar with the temporary railway that has to be laid on the table, or the floor, when train running is to be carried out, and which has to be cleared away again when operations are over. Hornby Rails fulfil the needs of this type of layout because they are readily put together, and they can be arranged in such a way as to produce varied layouts according to the ideas of the individual owner.

As long as the Rail Connecting Plates or Clips, according to the type of track in use, are employed the formation will stay put as long as necessary. The Plates or Clips ensure that there will be no springing apart of the rails at joints. When running is over it is not really a difficult matter to take the track to pieces and if proper care is exercised in drawing the Rails apart, damage will be avoided and the different components can be used over and over again with success.

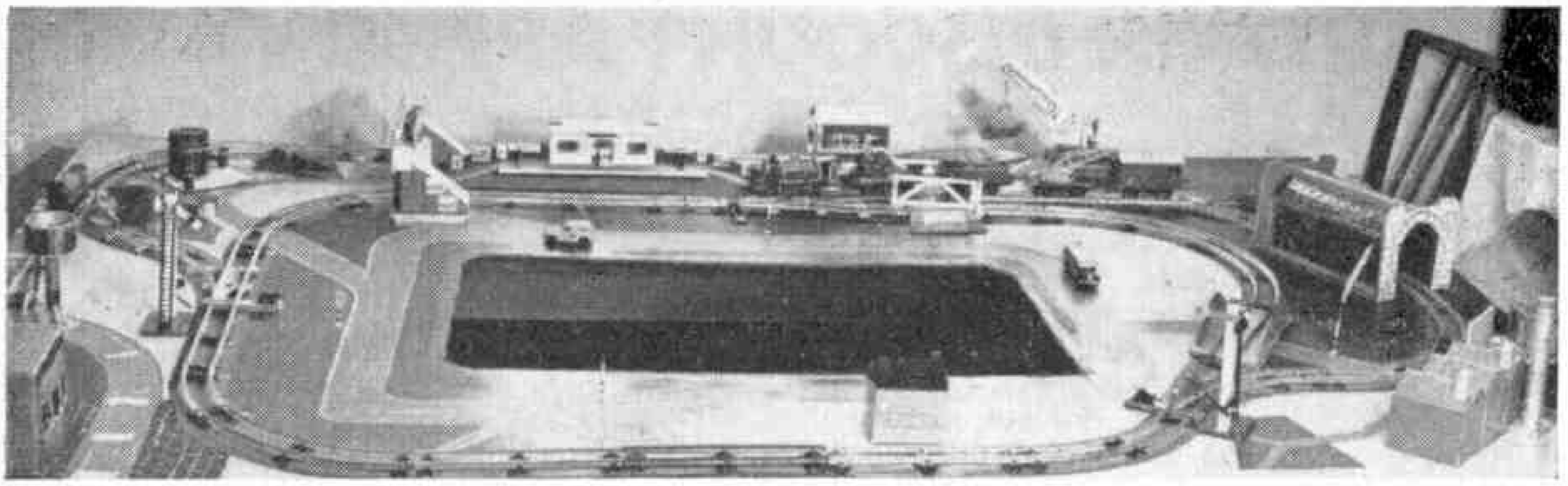
Now all this is good fun, and train running is even better, but almost all Hornby railway owners would rather do without the taking-to-pieces part of the business, although it need not take long if the task is tackled systematically. To avoid it, and to provide some degree of permanency to the system, many owners arrange their track on a baseboard of some kind. Possibly the whole railway can be laid on one piece of board, but if the layout is a large one there may have to be several sections. Hornby Rails are readily adaptable to this sort of permanent way engineering, and two of the illustrations to this article provide good examples.

One advantage of the sectional baseboard idea is that the railway can readily be moved from its usual situation, if not as a whole, at least in several main sections. This is the situation in the picture on this page, where Marion and Michael Selwood, Rawmarsh, Nr. Rotherham, are shown enjoying their train running out of doors during a fine spell. Their layout is a simple one, but this does not prevent them doing a lot of interesting train running. The main track is continuous, as is usual on clockwork railways, and the main oval is supplemented by an inner loop at each end. With careful management of the Points these loops can be used for through running purposes with two trains, or spare rolling stock can be parked in one of them.

Marion and Michael Selwood, of Rawmarsh, Nr. Rotherham, two keen Hornby railway operators having a happy time with their layout.

The railway is arranged in sections on lengths of wood that once formed part of an organ! There seems to be no limit to the resource of the average miniature railwayman, the most unlikely articles being pressed into some use at one time or another. The train shown is assembled from the components of the Hornby 501 Train Set, with various additions. The various lineside accessories were made at home by Mr. Selwood, and electric lighting is a feature of the building in the foreground.

Our next picture, the upper one on the opposite page, shows another kind of railway. This is arranged on a baseboard that forms a complete table for the line. The baseboard is raised to a convenient height for operating and an unusual feature is that there is a well in the middle, in which the operator is accommodated. This central control of traffic and operations generally is of considerable advantage, especially on a railway run by clockwork locomotives.



A simple Hornby Clockwork railway on a permanent baseboard arranged by Mr. E. Hayman, of Totnes, for his son. The operator looks after the job from the well conveniently arranged in the centre. Photograph by Eric N. Morison, Totnes.

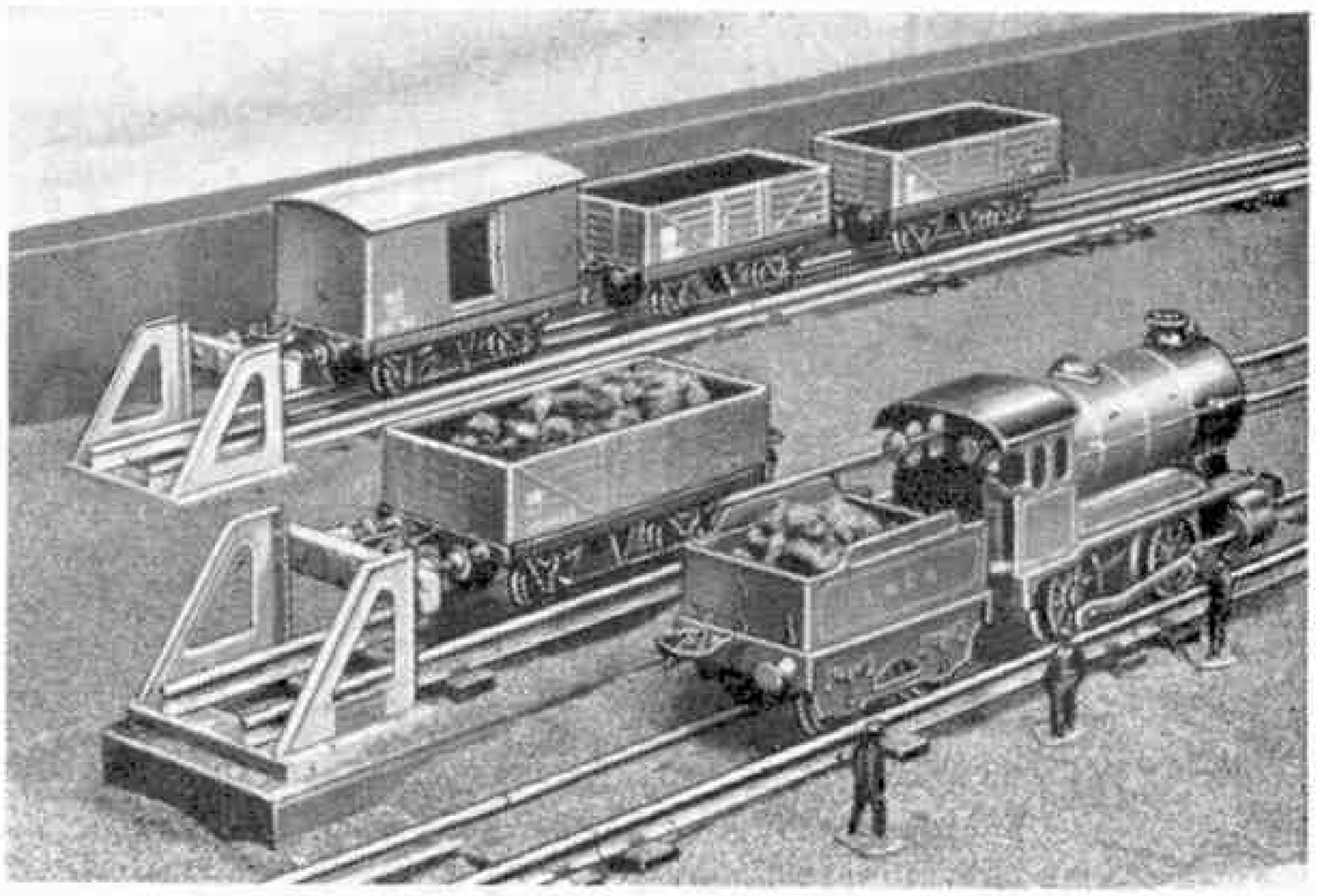
As can be seen in the picture, the line is a continuous one. In addition to the main track, which runs round the operating well, there is a lengthy loop that leaves the inner track and rejoins the main line after passing behind the station and threading the tunnel shown at the right hand end of the illustration. From the inner track too there is a shunting line that crosses the outer loop by means of an Acute Angle Crossing, an unusual duty for this particular component.

The loop makes two-way traffic possible and it has a connection leading to the water tank and locomotive shed that appear in the left-hand corner of the illustration. An engine can easily be brought from the shed along the outer track, then over to the inner track, back through the station and down to the shunting road for the empty vehicles that are normally kept there. Then if the way is clear it can soon be off on a journey along the main line.

There is plenty of activity on this railway and the picture shows a crane in use loading a Flat Truck that forms part of the train waiting on the goods track. The opportunity has been taken to paint the upper surfaces of the boards with roadways, paths and other features. This makes the whole affair look more effective and the fact that road traffic has to keep to the recognised roadways results in a tidy appearance. It is all too easy for a press of motor vehicles round and about a railway to form a traffic jam of formidable dimensions.

Both of these two layouts demonstrate in different ways the successful use of Hornby Rails on baseboards. For the benefit of those who are thinking of carrying out similar schemes we must remind readers that before any screwing down is done the rails must be correctly lined up, with their joints carefully made. The rails should not be screwed down too tightly or they may become damaged, and poor running and possibly derailments may result.

All railways, large or small, must come to an end somewhere, or at least there are bound to be one or two sidings that require Buffer Stops to finish them off. The Hornby Buffer Stops are well known and effective accessories. They fit up to the end rail of a siding just like any other piece of track and they must be secured by a Rail Connecting Plate. Otherwise they will not be able to do their job properly if a runaway train happens to strike them!



"Loco Coal" is the keynote here. The track on which the Hornby Wagon stands is at a slightly higher level than the engine road, so that "coal" can be loaded easily on to the tender of the 501 Locomotive.

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For other Stamp Advertisements see also pages 530 and xx.

Stamp Collectors' Corner

By F. E. Metcalfe

TURKEY CELEBRATES

SOME time after the last war I visited Hungary, and during that visit I stayed with a friend in the old city of Gyor. That name has a rather romantic sound, and the city itself lives up to its name for it is indeed a romantic place. One day we visited a part of the city where we could look over an old wall, down on to the ground which was many feet below. Remarked my companions "*That is as far as the Turks got. There we beat them.*"

I have since gathered that he was referring to the invasion of Hungary and other neighbouring countries by the Turks in the fifteenth century. It was all as real to him as though it had taken place a very short time before. I did my best to hide the fact that I could easily have known more about the subject than I did, but another comment gave me plenty of food for thought. Said my friend "*You Angols are very lucky people. You never had to contend with powerful enemies like the Turks.*"

We have never looked upon the Turks as a very powerful nation. It is true that we know at first hand what doughty fighters they are—ask anyone who served in the Dardenelles, or in Korea for confirmation of this—but in the eastern parts of Europe the Turks are held in very great respect.

What has all this to do with stamps? Well I am coming to that, bit by bit. That there is a connection will be seen before these notes are ended. I have remarked how historically minded are the Hungarians. Well, the Turks are very similar in this respect, and 1953 is a great year for them, for it is just five hundred years since the Ottomans captured that great city Constantinople, and thus overthrew for all time the once mighty Byzantine Empire.

This final Turkish victory affected more than the two nations directly engaged. And now we look back and see that the fall of the great Byzantine capital signalised the end of what we call the Middle Ages—a rather comical viewpoint when we consider that this old world is millions of years old—and the start of our own epoch. And what a complete break-up the Turks effected!

The East Roman Empire, an offshoot as it were, of the great Roman Empire, had as its capital the city we know today as Istambul. At the beginn ng of the 13th century it fell to the Western Crusaders, and thus we got the Latin Empire. In the middle of the same century a Byzantine emperor was restored, but the Turks were encroaching all the time, and when Constantine Palæologus was installed in 1448, little more than Constantinople remained for him to rule.

In 1451 Mohammed II became the Ottoman Emperor. An ambitious man, he aimed at capturing Constantinople, and his first move was to build a castle on the Bosphorus. We see a picture of this castle on the new 5 kurus Turkish Stamp, which is part of a wonderful set issued to commemorate the successful outcome of the venture, and perhaps I had better give some general details of this philatelic emission before I go further.

The set is one of 12 stamps—plus a miniature sheet—which will make a page in a collection of interest to anyone, especially if they have a smattering of knowledge of what the stamps depict, which is the reason why I am giving just a few details. The lowest value shows us the Rumelhisar Castle, which Mohammed built. The next value, 8 kurus, illustrates the guns—we seldom realise they used guns in those days—brought up to Constantinople to help make a breach in the defences. The third value depicts the part the Turkish Navy played. Vessels were actually dragged over from the Bosphorus to the Golden Horn, where it was found, as expected, that Constantinople could be attacked with greater ease. On the 12 kurus stamp we can see what the galleys looked like, while on the 15 k. stamp a picture of that strongest of all points, the Topkapi, can be noted.

At one time it looked as though the Turks would fail, but finally a breach was made in the defences, and on 29th May 1453 the defenders were overwhelmed and, as can be seen on the 20 kurus stamp, the Turks broke through into the capital. The Emperor Constantine was killed during the attack. Perhaps it was as well for him that he was, for fallen leaders had just as tough a time of it five hundred years ago, as they have in our own times.

The great church of St. Sophia is to be seen on the 30 kurus value. It is worth a trip to Istambul to see it. The 40 kurus stamp will need explaining. Here we can see the conqueror Sultan Mohammed II presenting a cross to the head of the Greek Church Patriach Yenadios.

The 60 kurus stamp gives us a map of the vanquished city as it was when the (*Continued on page 538*)

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For other Stamp Advertisements see also pages 534 and xx.

Stamp Gossip

QUEEN ELIZABETH PORTRAITS

NOT only collectors have been making a fuss about what have been described as poor likenesses on some of the new Queen Elizabeth postage stamps. While it is fairly easy to take an attractive photograph, or draw a good sketch, it is a very different thing to engrave a plate. It has been stated that the plate for the Canadian stamp—one that in spite of what has been said I like very much, the design is so finely conceived—was made in New York, and one disgruntled Canadian commentator went as far as to say that there are no good engravers nowadays. Evidently he had not seen the new 3d. and 3½d. stamps of Australia, or the fine portrait of the late President Roosevelt on a set for Uruguay that was prepared and printed by the British firm of Waterlow and Sons.

LAID PAPER

The supposed discovery of Canadian stamps of the 1937 issue on laid paper has created quite a stir. I was a bit sceptical when I first heard the news, for to be quite candid, all too many seem to think that any paper showing lines or ribs is laid. Anyhow, a Canadian collector has kindly sent me three copies of the supposed variety, and I am thus able to see that, as I suspected, laid paper has *not* been used. On the underside of the stamps the paper has a ribbed appearance, but this is on the surface and is caused by the wire mesh on which the pulp is first spread out. When the paper is removed from the wire, it goes through rollers. This rolling or calendering generally removes most of the marks left on the underside of the paper, but they are never entirely eliminated, though in the case of the stamps sent for inspection those wire mesh marks are more in evidence than is usual. Hence the mistake. I am afraid that it is necessary to add that these varieties are of very little philatelic interest or value.

PRISONER OF WAR

Because they lend themselves so well to most forms of publicity, postage stamps are used nowadays for all kinds of purposes, and some of these purposes are not very pleasant. As an example of what I mean, just examine the Prisoner of War stamp recently issued by the German Federal Republic. Printed appropriately in grey, so realistic is the design that it almost makes one give a little shudder.

Both Eastern and Western sections of Germany are issuing some very interesting stamps in these days and their popularity is growing. More than once I have been asked if "Hitlerite" German stamps are valuable. Generally speaking they are not, for so many were issued that there are plenty to go round. When the war ended Germans were forbidden to collect them, but all that is past history, and with the increased demand their value is rising slightly. Their numbers alone prevent steep rises.

AUSTRALIA

The Postmaster General of Australia recently announced that there will be no further printings of the values 1½d., 4½d., 5½d., 6½d. (brown), 8½d. and 1/3 when present stocks have been used up. Several of these have not had a long life, but no doubt there will be plenty to go round for a long time to come, for Australia is a popular country and many dealers and collectors are interested in its stamps. Those who are interested in shades I would recommend to make sure that they have both shades of the 1/3 value. When this stamp first appeared in 1948 it was printed with ink of a rich purple-brown colour. Last year another printing appeared in a much deeper shade, quite distinct from the original. Both shades have been listed in the Commonwealth Catalogue and such is he demand for Australian stamps that in time the latter deep purple-brown may become quite a scarce little stamp.

Readers will remember how collectors criticised the designs used for the "Produce More Food" stamps. Well the numbers issued of these two stamps are as follows: 3d., 57,499,500; 3½d., 96,379,000. When you examine how many millions were sold, obviously for postal purposes, and then consider how relatively very few would be bought by collectors, doesn't it make those critical comments seem very much out of place? In other words, wouldn't the Post Office be entitled to say, what right have collectors above ordinary folks (who don't bother) to complain about the designs of stamps which were issued in a very good cause?

ST. HELENA

Even a single new stamp for St. Helena is an event, so what can be said about the full pictorial set which was issued on 4th August? De la Rues are the printers and there are 13 values. All are to do with views of the island, except for the ½d. value, which depicts a seventeenth century sailing vessel. This is the badge of the colony. I think that the title beneath each design is self-explanatory, with the possible exception of the 3d. value. The Wire Bird is the description, and apparently it is so called because it makes its nest in wire-grass—you know that coarse grass you see at the sea-side. Actually the bird is of the plover family (*Aegialitis sanctae Helenae*) and is said to be the only land bird indigenous to St. Helena.

A full set will cost about 25/–, and if that is above the capacity of your pocket don't worry; a short and quite representative set can be obtained for about 3/–, or even a shorter set for a modest shilling.

On the Footplate from Leeds to Carlisle—

(*Continued from page 500*)

clift-like Samson's Chambers prominent in the foreground. Down through the pair of tunnels at Baron's Wood, then through Armathwaite Tunnel and up to Armathwaite itself as we came through a patchwork of fields and farming land. A hoot on the whistle signalled our approach to Low House Crossing and after passing an up freight in charge of another Class 5, but not a Caprotti, the regulator was shut off as we came to the level stretch before Cumwhinton. Then we coasted down towards the Border City, with occasional touches of the brakes. The final approach into the station off the Midland line is uphill, so steam was on again as we joined the West Coast route and came puffing into Carlisle No. 5 platform at 4.34—three minutes early.

This was journey's end for me. I took leave of my footplate friends, who went off with their engine towards Kingmoor, to turn and make ready for their trip back to Leeds. I waited to see what Scottish Region engine would back on to take the train to Edinburgh, and was rewarded by the sight of a fine clean Gresley Pacific, No. 60068 *Sir Visto*.

Such was my first introduction to the Aisgill route, and I shall long remember it. If the nature of the road and the scenery did distract my attention from the business on the footplate to some extent, well that is not really surprising. Perhaps I may some day be able to make a trip in the opposite direction over "the long drag," as railwaymen call the line, and may be able to tell you about that too.

Stamp Collectors' Corner—

(*Continued from page 535*)

great capture took place. The two top values have miniatures of Mohammed II as their designs, and when Mohammed died in 1491 after many other successful conquests—one of these was referred to by my Hungarian friend—he was buried in the mosque, which is to be seen on the 1 lira stamp.

Well, that roughly tells the story of about the most interesting set of stamps ever issued. The Swiss firm of stamp printers Messrs. Courvoisier had done the job, but to be quite frank, on this occasion they have not made the most of their opportunity. The designs are overloaded with detail. The frames take up too much of the stamps, yet such are the events depicted that the set as it stands cannot be resisted. A full set will not be expensive, while a short set that will tell a good bit of the story will cost very little indeed.

Don't miss this set, short or complete. Write it up nicely and you will have a page in your collection that will interest not just collectors, but all who see it.

Aboard the Antietam—(*Continued from page 506*)

giant Forrestal-class carriers will be built from the start with angled decks, and with that other great British invention, the steam catapult. So will the Royal Navy's H.M.S. *Hermes* and her sister ships; and, of course, they will benefit from experience gained with *Antietam* in this fine example of Anglo-American enterprise and co-operation.

A LINK WITH TRAFALGAR

The picture on the Editorial page, from a photograph by C. R. Rowson, Liverpool, shows the one-man station of the Metropolitan Police at the south-east corner of Trafalgar Square, London. What makes this little building one of the most interesting places in Trafalgar Square is the fact that the octagonal lantern on the roof of the tower is one of the original oil lanterns from H.M.S. *Victory*, Nelson's flagship at the Battle of Trafalgar on 21st October, 1805. In fact, there are two of these lanterns in the Square, the other being on the top of a stone pillar at the south-west corner.

To the men who clean them the lamps are known as the "Battle Lights," and extra pay is received for keeping them "spick and span." They are now lit by electricity, like the rest of the lights surrounding Nelson's column, but it is, nevertheless a fitting resting place for such relics, within a few hundred yards of the Old Admiralty Building in Whitehall, which Lord Nelson knew so well.

A veteran lorry that began work at Southampton Docks in 1922. It is electric, with chain drive, and was supplied by Richard Garratt and Son, Suffolk. Up to the end of 1952 it was often seen on the roads in and around the Docks, but was then withdrawn from service on public roads. Photograph by H. Meyer, Chandler's Ford.

THE "SUPER JET" JUNIOR STAMP ALBUM.

This latest Stanley Gibbons postage stamp album is intended for the beginner or the junior collector, and its 96 8¼ × 6¼ in. pages provide a total of 3,400 stamp spaces. The pages are titled at the top, and all stamp-issuing countries are taken into account. The important countries are paged in alphabetical order, and a detailed index gives the location in the album of places and less important couutries which are featured out of alphabetical order. For example, Dahomey is grouped with other French colonies, and Greenland is provided for on the page allocated to Danish colonies. The album has a strong cover with two-colour design, and can be obtained from any stamp dealer or bookseller, price 1/6.

THIS MONTH'S COVER

The locomotive seen on our cover is No. 70015 *Apollo*, of the British Railways "Britannia" class. It was built at Crewe in 1951, and after being run in was assigned to service between London, Euston, and Liverpool, Lime Street, on *The Red Rose* express during the Festival of Britain. It was while on this service that W. R. Hamilton, Cheadle Hulme, took the photograph that is the basis of our cover. *Apollo* was later transferred from the London Midland Region to the Eastern Region, and with other engines of the same class works on the principal express trains mainly between Liverpool Street and the Eastern Counties. Many fine performances have been reported with these engines.

Competitions! Open To All Readers

Prize-winning entries in M.M. competitions become the property of Meccano Ltd. Unsuccessful entries in photographic, drawing and similar contests will be returned if suitable stamped addressed envelopes or wrappers are enclosed with them.

What Is Wrong With This?

MIXED LOCOMOTIVE DETAILS

	NAME	CLASS	NUMBER	CYLINDERS
1.	City of Salford	Merchant Navy, W.R., 4-6-0	60860	2
2.	Iron Duke	Royal Scot, S.R., 4-4-0	30934	4
3.	Sir Constantine	"B1," L.M.R., 4-6-2	5095	3
4.	Barbury Castle	Schools, B.R. Standard, 4-6-2	46212	2
5.	Strang Steel	Princess Royal, S.R., 4-6-0	72000	3
6.	The Boy Scout	Grange, L.M.R., 4-6-2	30806	2
7.	Clan Buchanan	King Arthur, E.R., 4-6-2	6873	3
8.	Duchess of Kent	Britannia, S.R., 2-6-2	46257	2
9.	St. Lawrence	Castle, B.R. Standard, 4-6-0	70014	4
10.	Caradoc Grange	Princess Coronation, E.R., 4-6-2	61244	3
11.	Ellerman Lines	"V2," W.R., 4-6-0	46169	4
12.	Durham School	Clan, L.M.R., 4-6-0	35029	2

Above is a nice little tangle that we invite railway enthusiasts among our readers to sort out. The panel contains details of twelve locomotives, but it is easy to see at a glance that something has gone wrong. To take the first example, there is no Merchant Navy class locomotive of the name *City of Salford;* if there were its wheel arrangement would not be 4–6–0, and there is no Western Region engine of the name.

This mix-up provides a competition that readers will find both easy and interesting. The right descriptions, wheel arrangements and numbers are there, and what they are asked to do is to sort out the mess so that correct details are given for each of the twelve locomotives named. The corrected list should then be sent to *October Locomotive Contest, Meccano Magazine, Binns Road, Liverpool 13.*

There are two sections, for Home and Overseas entrants respectively, and in each of these prizes of £1/1/–, 15/– and 10/6 will be awarded for the best entries in order of merit, with Consolation Prizes for other good efforts. If there is a tie for any prize the judges will take neatness and novelty into consideration.

Closing dates: Home Section, 30th November 1953; Overseas Section, 27th February 1954.

Ship Drawing Contest

In this contest we invite readers to demonstrate their skill with pencil or pen in drawing ships and boats. Any kind of craft can be chosen, and shown in any suitable surroundings. Entries may be in colour, but competitors must remember that it is the drawing itself on which the judges will rely.

There will be the usual two sections in this contest, for Home and Overseas readers respectively, and in each there will be two classes, one for competitors of 12 years of age or more and the other for those under 12. In each of the four divisions of the competition prizes of 21/–, 15/– and 10/6 will be awarded for the best entries in order of merit, and there will be consolation prizes for other good efforts.

Write your name, address and age on the back of your entry, and send it to *Ship Drawing Contest, Meccano Magazine, Binns Road, Liverpool 13.* Closing dates: Home Section, 30th November 1953; Overseas Section, 27th February 1954.

October Photographic Contest

The tenth of our 1953 series of photographic contests is a general one in which we invite readers to submit prints of any subject. Each competitor may submit only one photograph, which must have been taken by him, and on the back of his print must be stated exactly what the photograph represents, also his name, address and age must be given.

The competition will be in two sections, A for readers aged 16 and over, and B for those under 16. Each competitor must state in which section his photograph is entered. There will be separate Overseas Sections, and in each section prizes of 21/–, 15/– and 10/6 will be awarded. Entries should be addressed: *October Photographic Contest, Meccano Magazine, Binns Road, Liverpool 13.* Closing dates: Home Section, 31st October 1953; Overseas Section, 30th January 1954.

Competitors who desire their entries to be returned should note the paragraph at the top of this page.

Fireside Fun

"What are the hours for meals in this hotel?" asked the youth from the country.

"Breakfast seven to ten-thirty, lunch twelve to three, tea three to five, dinner six to ten, with refreshments in the snack bar at all times," came the quick reply.

"Heavens. I can't keep up with that, and anyway I came here to see the city."

* * * *

"I've eaten good roast beef practically all my life, and I feel as strong as an ox."

"That's funny! I've been on a fish diet for months and can't swim a stroke yet."

* * * *

"It's time we had a new car. When are you going to get one?"

"What? Me get a new car? Do you think they grow on trees?"

"Of course I don't. They come from plants, don't they?"

* * * *

"Excuse me, do you know who is talking in the meeting, or are you just going in?"

"Oh, no, I've just come out. It's our representative Mr. Stuffle who is talking now."

"What about?"

"Well, he didn't exactly say."

* * * *

Teacher: "Who was it defeated the Philistines? George Wright, you tell me."

George: "Don't know, sir. I only follow the First and Second Divisions."

* * * *

First Recruit: "The sergeant-major is always picking holes in me."

Second Recruit: "Me too. But I suppose it's his job to drill us."

* * * *

Customer: "I can't get on with this washing machine. You will have to take it back."

Salesman: "But what is wrong with it, madam?"

Customer: "Wrong with it? Everything. As soon as I get into it the paddles knock me off my feet."

* * * *

"Give me the names of two fishes beginning with H."

"Hake, sir, and . . . . and Huddersfield."

"Huddersfield? Nonsense Huddersfield isn't a fish, is it?"

"Well, sir, it is a place."

* * * *

"I don't know what to do about my boy Johnny. He wants to be a racing motorist."

"Oh, don't stand in his way at all."

* * * *

"Does ink cost a lot, daddy?"

"No, Johnny. Why do you ask?"

"Well, mother seemed really upset because I spilt some on the carpet."

* * * *

BRAIN TEASERS

WHAT IS THE DIFFERENCE?

The following pairs of words sound the same, but they are spelled differently. The first word of each pair is something that grows in woods or gardens. Can you identify the words from the clues?

1. Blossom; ingredient for cake.
2. Tapering fruit; brace.
3. Vegetable; result of a hole.
4. Tree branch; bend.
5. Small round fruit; running water.
6. Herb; hours and minutes.
7. Fruit eaten when decayed; one who interferes.
8. Tall spread tree; clear. S.W.C.

CAN YOU READ IT?

Here is an unusual address that appeared on an envelope. The postman was smart and succeeded in delivering the letter. What should have been written?

W A R N E R

30 T O N / S T

5 A S H 20 C W T S

* * * *

AN AVERAGE PROBLEM

At the beginning of the last cricket match of the season, the two main bowlers of one club had each taken 28 wickets for 60 runs. In the match one took four wickets for 36 runs and the other one wicket for 27 runs. Almost everybody began to congratulate the first of the two bowlers on heading the averages for the year. Then somebody noticed a peculiarity. What was it, and how can it be explained?

The real enthusiast takes his hobby with him.
(By P. D. Hancock. Reproduced by courtesy of *The Railway Modeller*).

SOLUTIONS TO LAST MONTH'S PUZZLES

The lorries indicated in our first puzzle last month were: ALBION, KARRIER, TROJAN, THORNYCROFT, DODGE, ATKINSON, CHEVROLET, SENTINEL, VULCAN, COMMER and BEDFORD.

The proverbs of our second puzzle were: BIRDS OF A FEATHER FLOCK TOGETHER and A ROLLING STONE GATHERS NO MOSS.

The only animal name of three letters that can be made up with one letter each from the three dials of our third puzzle is GNU.

The verse from which the vowels were missing is the well-known one from Gray's Elegy—"The Curfew Tolls the Knell of Parting Day . . . . . ."

Here is the solution of our last puzzle last month.

9 6 2 3 3
6 2 5 1 3
———————
1 5 8 7 4 6

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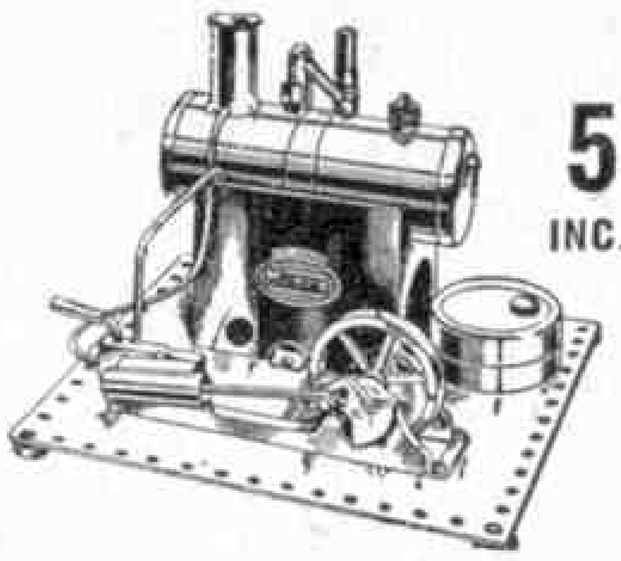

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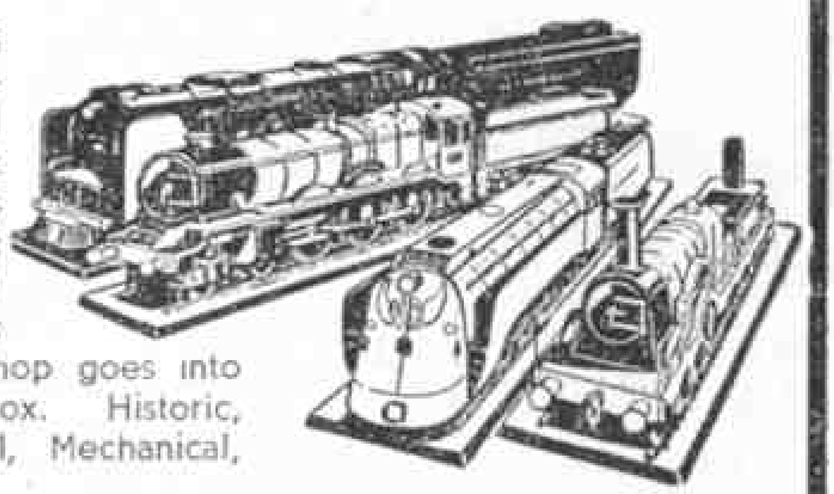

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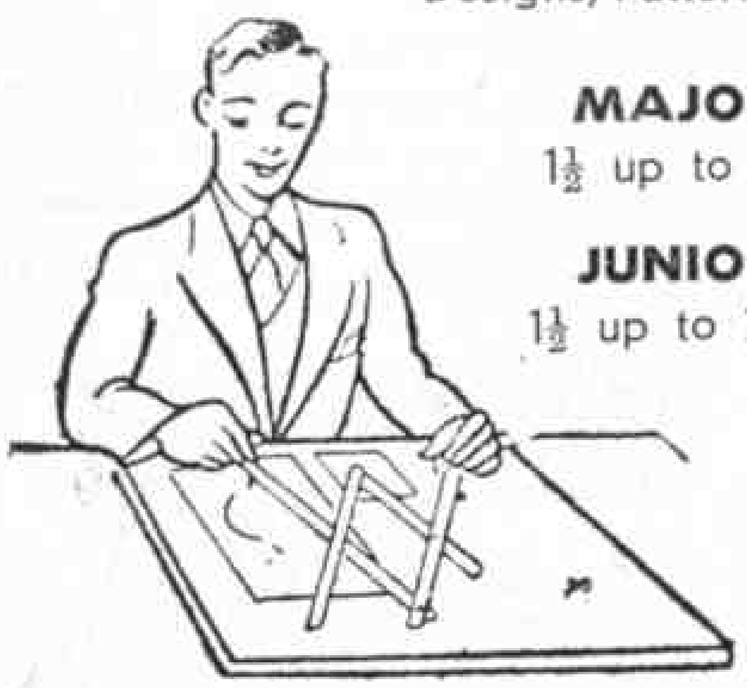

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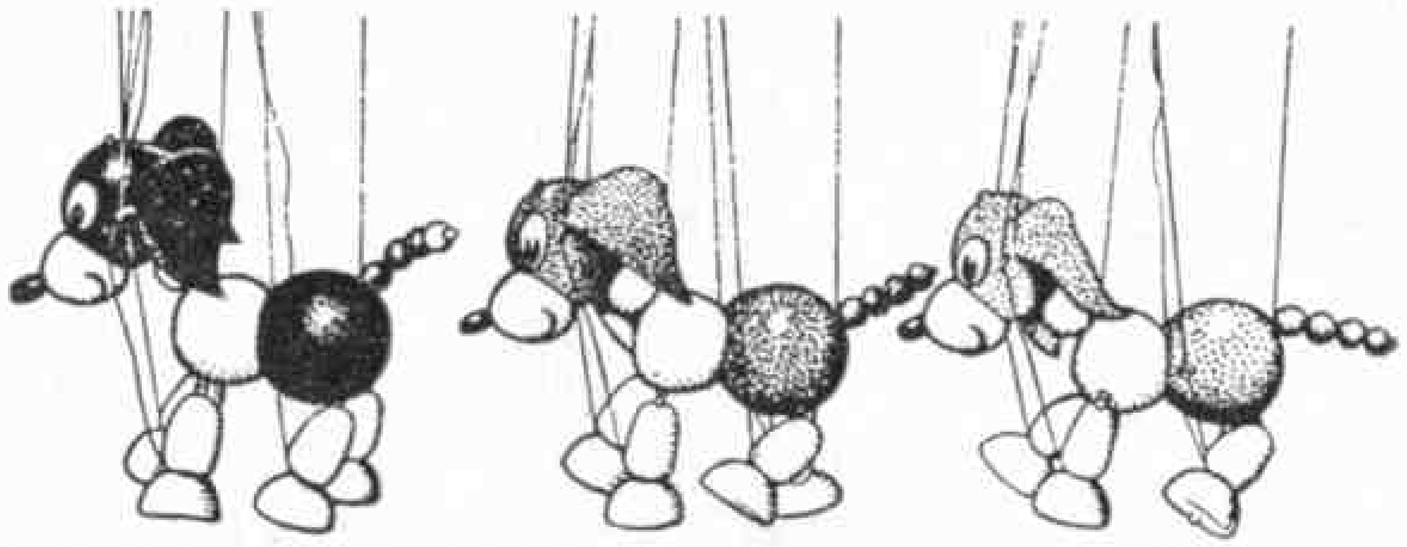

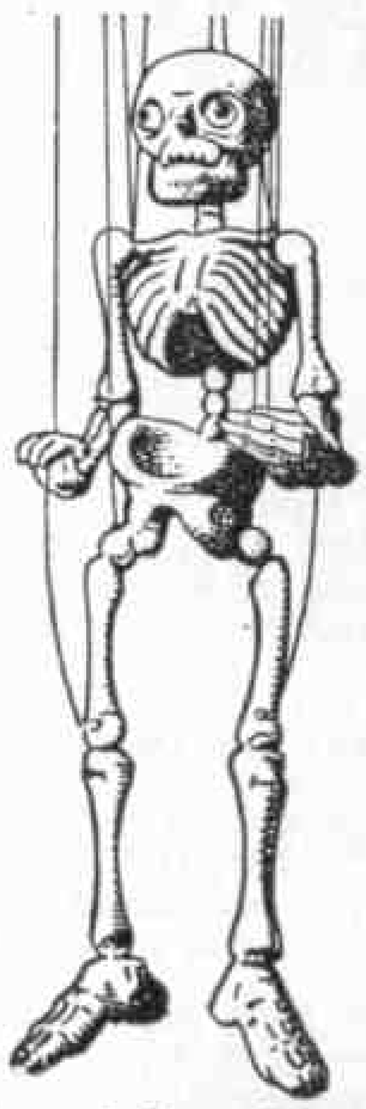

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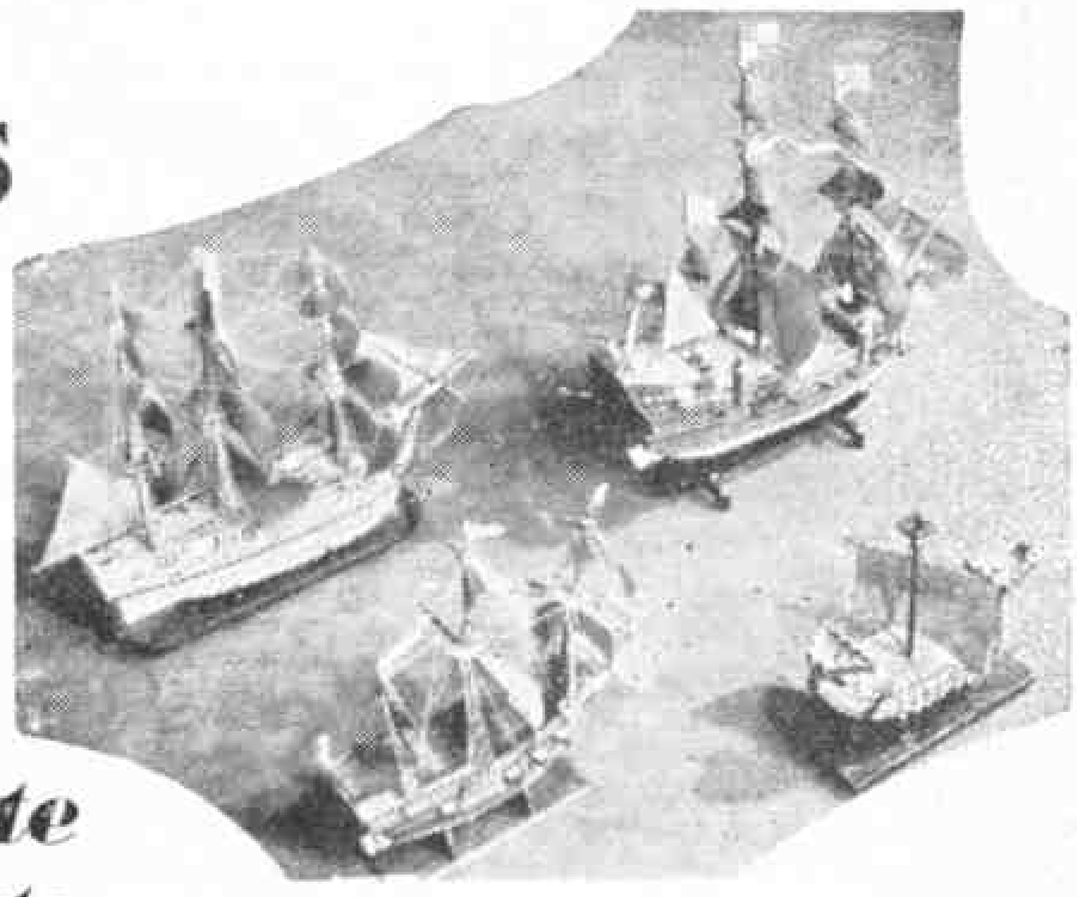

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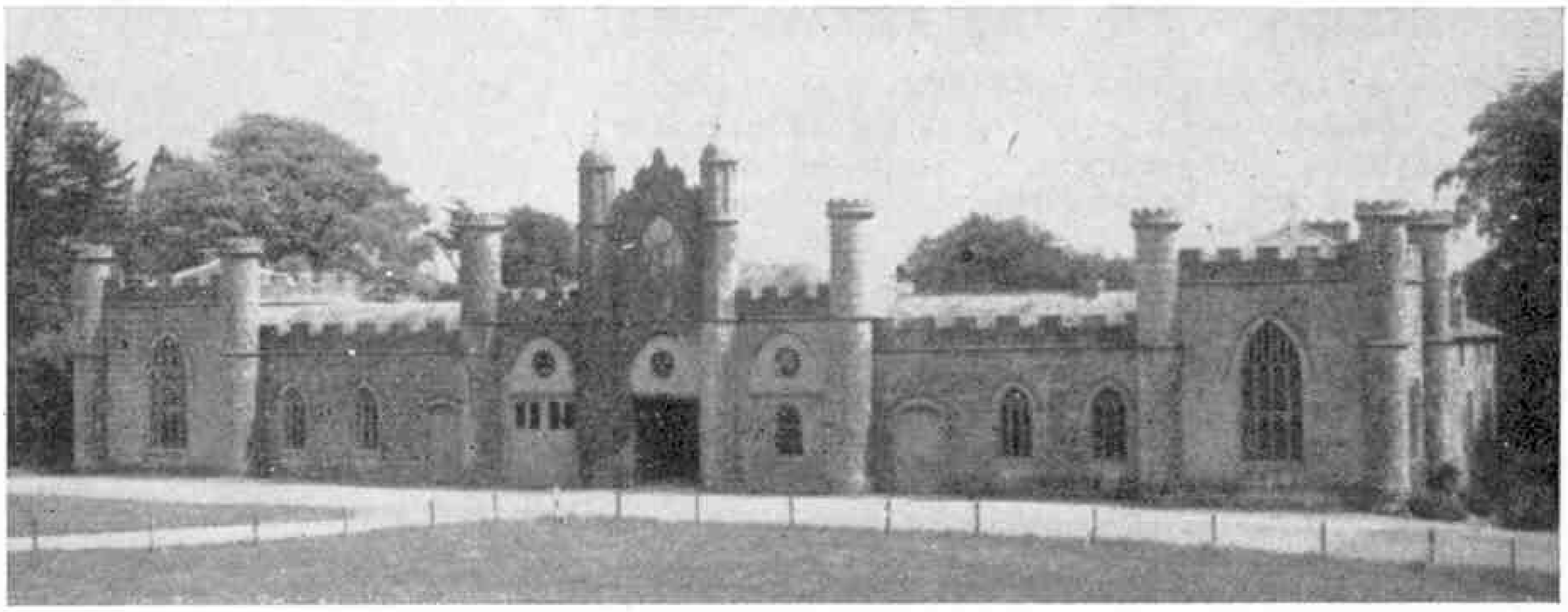

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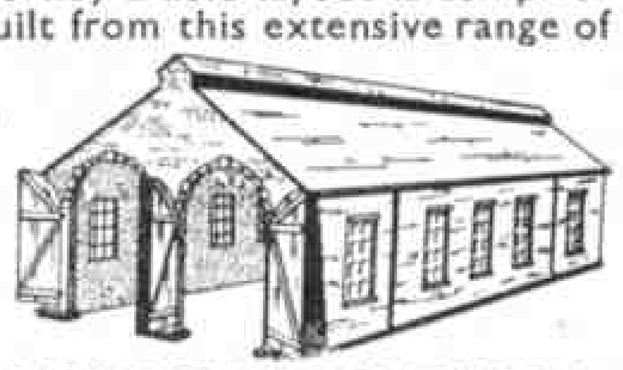

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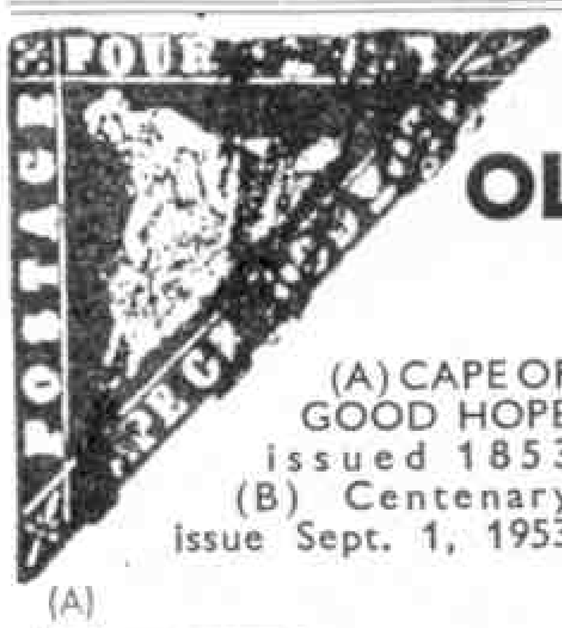

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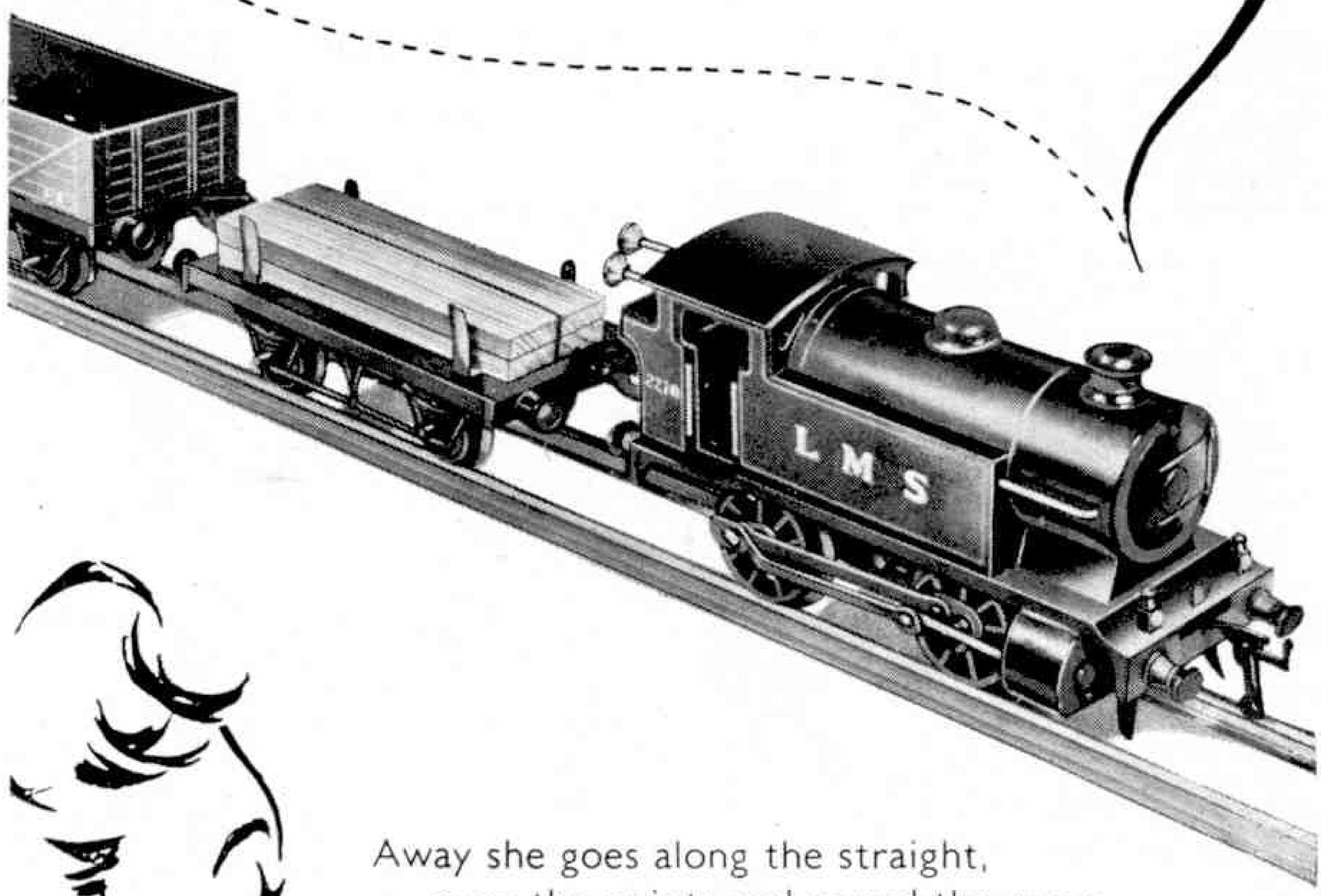

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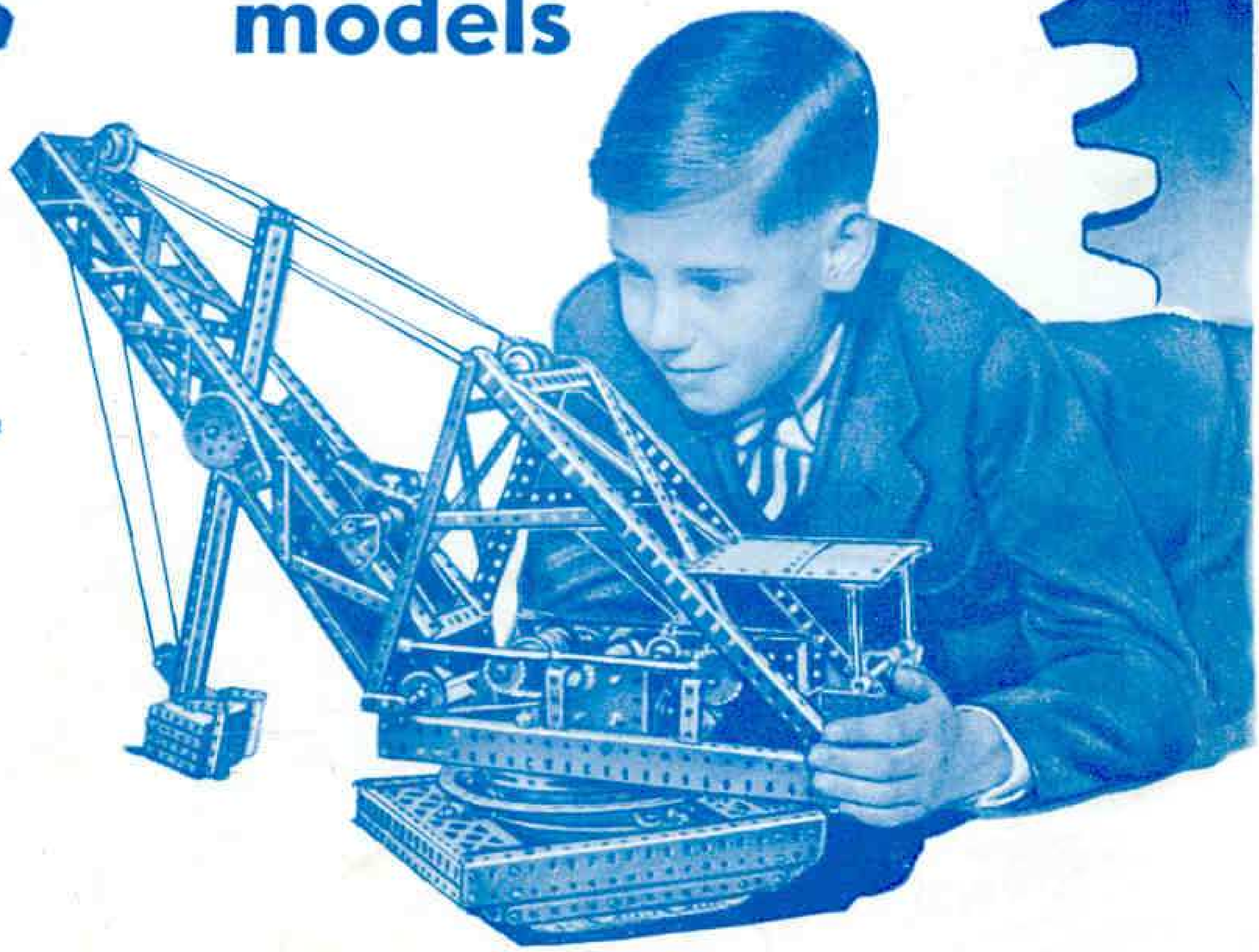

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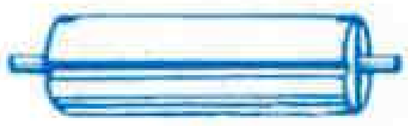

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